Gleanings in Bee Culture
"Created to help beekeepers succeed."
May, 1950 Vol. 78, No. 5

Using Two Brood Chambers for Comb Honey

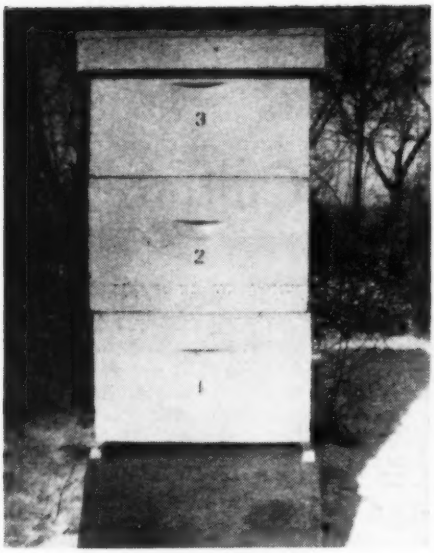
It Can Be Done with Proper Hive Manipulation
By Marvin W. Kosanke, Ripon, Wisconsin

This picture of one of Mr. Kasanke's apiaries was taken in the early winter

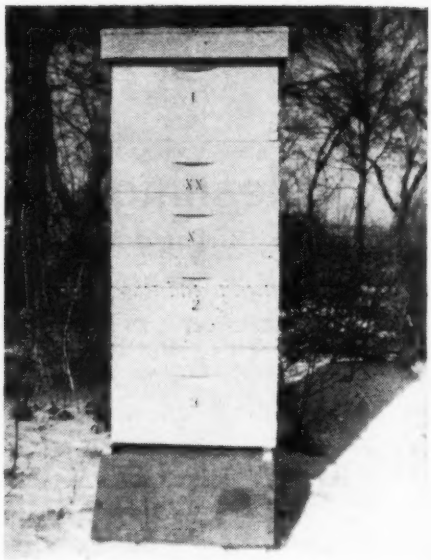
Ever since I have been keeping bees I have been much more interested in producing comb honey than extracted honey. Producing comb honey is very interesting and it is a product that cannot be duplicated nor is there any substitute for it such as we find in the field of dairy products today. Butter, milk, and cheese are being replaced by manufactured substitutes in many instances.

Comb honey is in a class by itself. It is Nature's finest product. It has many fine flavors and is pure and wholesome in every way. In fact, it is perfect in every detail, requiring no more processing other than removing a small amount of propolis from the wood of the section and placing the section in a suitable container. I believe that it has a great advantage over extracted honey. Before extracted honey is prepared for market several operations must be carried out such as extracting, straining, filtering, heating, bottling, etc. This is all extra work which consumes a great deal of time, and many times because of some careless beekeeper the flavor and quality of the honey is impaired.

As long as I have had bees I have been producing comb honey. As a matter of fact, the first colony I owned was kept for comb honey



No. 1



No. 2

production. During the first years I tried several methods using the single brood chambers but by forcing a large colony into a single brood chamber, with the additional two or three comb honey supers, the hive became very congested. This resulted in a large amount of work when they were inspected. It was difficult to locate the queen and to find all the queen cells. Naturally not all the cells were found with the result that the colony swarmed, thus interrupting production. So during recent years I have discarded all methods using the single brood chamber and have been using the double brood chamber entirely.

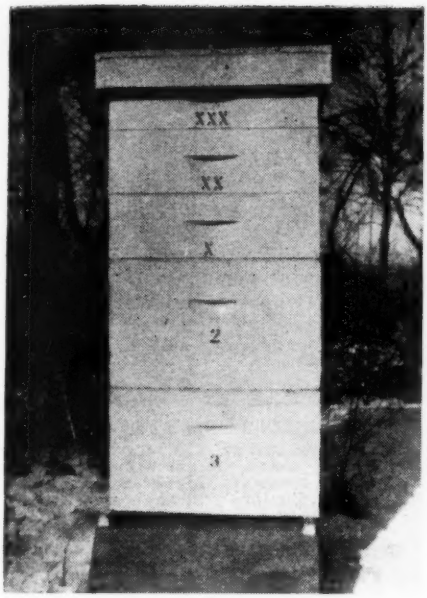
Colony Preparation Begins in the Fall

I like to have wintered-over colonies headed by young queens for comb honey production rather than packages installed in the spring. Established colonies build up more rapidly in this locality, especially when our weather is unfavorable as too often is the case. To begin with, we have to make preparations in the early fall for the next year's crop of honey. All colonies are inspected to determine the amount of honey and pollen they have for winter and spring use and whether they have good laying queens or if there may be any disease. Three hive bodies are left on each stand. This extra food chamber is a very important requirement. It is filled entirely with honey and pollen. Every spring I find that this extra super of honey is nearly used up by the time the next major flow begins. The result is always large populous colonies of bees provided there is a good queen in the hive and conditions are normal.

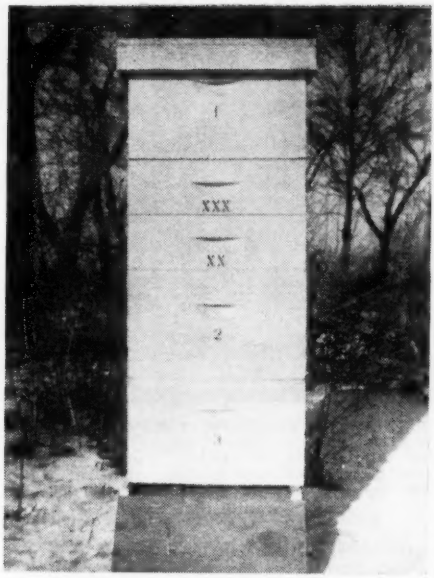
If a colony is not up to standard for wintering it is united with another in the fall to be replaced by a package the following spring. Only the best are kept for next year's production. Other winter preparations are completed by the first week in November. A snow fence is placed on the west, north, and east sides of the apiary to provide an additional windbreak. The lower entrance is reduced and auger holes are made in the top and second hive body. A piece of Celotex or any suitable insulation is placed directly under the outer cover. Then the last preparation is made, and a very important one, too. The entire hive is wrapped with black asphalt paper. This is a decided advantage because the paper absorbs the rays of the sun which warm the hive, enabling the cluster to move on to fresh stores.

Preparing Equipment During Winter Months

During the winter months all the comb honey supers and fixtures are cleaned and scraped of all propolis,



No. 3



No. 4

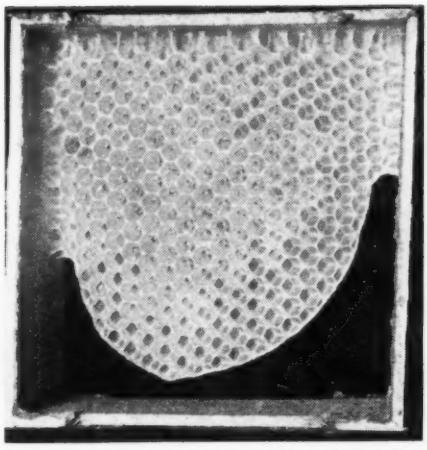
wax, etc. They are also inspected for cracks and chipped corners, so they may be repaired and made bee tight. Nothing is so disgusting as to have a super of comb honey robbed out when you are preparing to remove it from the hive. Sections are folded and foundation is attached to them and placed in the super so that everything is ready for the coming season. In addition, the top and bottom parts of the sections are given a coat of paraffin to prevent accumulation of excess propolis.

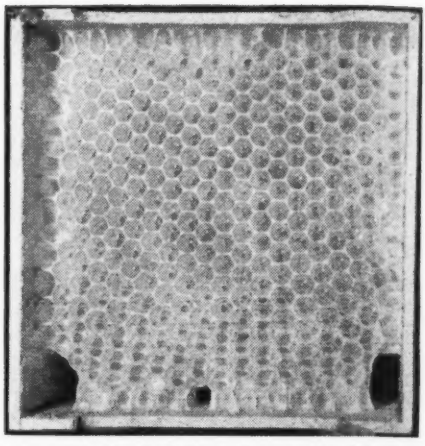
The first supers placed on the hive each contain at least four bait sections. This helps to start the bees to work in the supers. I believe these should always be included when preparing the supers for the coming season. Bait sections may be obtained very easily by uncapping unfinished sections and extracting them in a basket-type extractor.

Usually by the first of April the wrapping is removed and the colonies are inspected to determine their condition and whether any have perished during the winter. Careful observation is given to the queens to determine their laying ability. If they are inferior they will be replaced.

About the middle of April the best colonies with young queens are now selected for comb honey production. All colonies are inspected every week or ten days. All the queens of the aforementioned colonies are carefully observed during each inspection to determine what progress each queen has made from week to week. Sometime before or during the fruit bloom most of these colonies become quite populous. If the queen is found in the top hive body along with considerable brood, this hive body containing the queen is placed on the bottom board and the bottom hive body is placed on top of the hive. The second hive body remains as it is on the hive. Then as a matter of extra swarm prevention another super is placed on top of the hive to relieve any congestion. Any surplus honey that may be gathered from dandelion and fruit bloom will be stored here. The reversing of the brood chambers may have to be repeated later if conditions should make it necessary. No feeding of the bees is needed at any time during the spring because of the honey and pollen in the extra food chamber. This eliminates a great amount of work and saves considerable time.

The final preparations are now made in June during the first of the major flow. The first step is to re-





This series of four pictures shows the different stages in the building of a comb of honey.

The above picture shows comb started from a strip of foundation. It is preferable to use a full sheet of thin super foundation.

This picture shows the comb nearing completion and more cells containing honey. The bottom portions still have empty cells.

move the super that was placed on top of the hive earlier in the spring. This super probably contains a little honey and can be placed on a hive kept for extracted honey production. Now the hive will look as pictured in Illustration No. 1. The queen is located and if found in hive body No. 3, for example, it is placed on the bottom board as shown in Illustration No. 2. The second hive body containing both unsealed and sealed brood remains as it is on the hive. The two comb honey supers X and XX are placed on top of it. Hive body No. 1 containing mostly sealed brood is placed on top of the two comb honey supers. There it is left for ten days or two weeks until all the brood has emerged. Then it is placed on top of another colony kept for extracted honey to be returned to the original hive as I shall explain later. These manipulations eliminate all congestion and enable the bees to enter the comb honey supers much more readily so that the storing of surplus honey begins almost immediately. Some years if the honey flow happens to be very good, one or more supers may have to be added.

Top Supering Used

When the bees are working well in the two outside rows of sections and have the combs just about all drawn out in these two rows of super XX, then it is time to place super XXX on the hive.

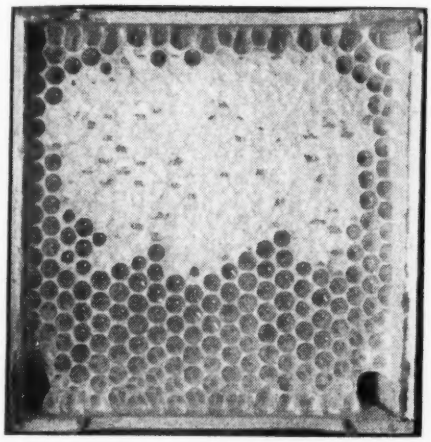
I have always practiced the top supering method. It has given good results over a double brood chamber, with a minimum amount of effort. However, I believe that the supers should not be placed on too far in advance for it may cause them to draw out small combs and thus produce underweight sections. This is especially true during a season when the flow is not heavy. So care must be taken in placing supers on the hive from the third super XXX to the last one that is required during the flow.

Correct timing is always of the greatest importance up until the end of the flow, otherwise there may be a large number of unfinished sections. Only by long experience and keen observation will one become competent in this procedure.

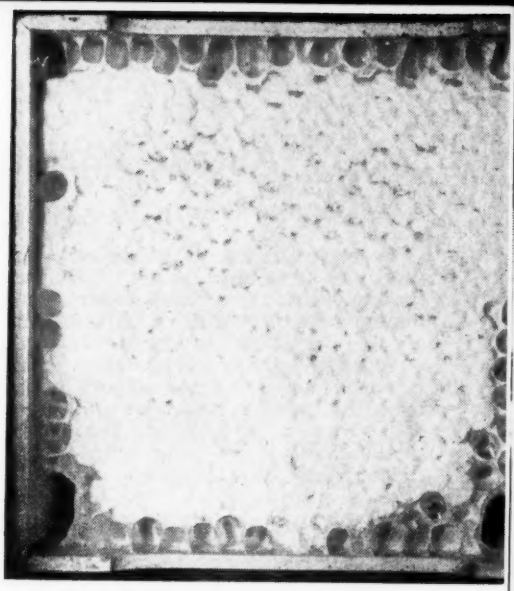
Sometimes there will be some covers on the hives that are warped and do not fit tightly. So, as an added precaution, when removing a finished comb honey super by the bee escape method, I place an extra inner cover under the outside cover. The hole in the inner cover is closed up.

The super is entirely bee tight and there is no chance for the bees to rob out the sections. It is very disconcerting to have a fine super of honey ruined this way after you have worked all season to produce it.

We have a large buckwheat acre-



This shows the comb building practically completed and the cappings over almost half the comb. The bottom cells are still empty showing why it is necessary to look in the bottom of the comb super to check whether or not it is completed.



This last picture shows the completed comb. This comb is not filled out completely nor do the edge cells have honey in them. The reason this might happen could be that the hive was not strong enough, too many supers were added, or that the honey flow fell off before the bees could finish. In this case too many supers were added and the bees moved to the next one before completely filling the one they were working on.

age in this area and just before it begins to blossom I remove comb honey super X if it is finished and replace it with the hive body that I removed previously as shown in Illustration No. 4. As the remaining comb honey supers are finished I remove them and place another full-depth super on top of the hive if it is necessary. One of these supers is left for winter and the other may be extracted. If you have a good market for buckwheat comb honey and no buckwheat is grown near the apiary this procedure is not necessary. But the demand for buckwheat is definitely limited in this vicinity so no more comb honey supers are placed on the hive for the rest of the season.

Two very essential requirements in producing comb honey are adequate shade and ventilation. For additional ventilation I place one-quarter inch blocks between the bottom board and the lower brood chamber and the outer and inner covers. My apiaries are always placed near or under a few trees so that the hives receive sufficient shade during the hot summer days.

These colonies kept for comb honey production receive no special attention after the flow begins and are inspected only every ten days along with the colonies kept for extracted honey production. Very few queen cells are found any time before and during the flow. This method fulfills my own particular needs and usually results in a good crop of comb honey in this area. I find that the production per colony compares more favorably with a hive kept for extracted honey by using this method than of the others that I have used previously. In addition it keeps swarming down to a minimum and the direct result is much less work and more time saved in securing a crop.

[After experimenting with section comb honey production for 13 years in The Root Company apiaries we are now of the opinion that it is possible to produce comb honey over double brood chambers. In fact, our highest producing colonies last season were in two deep brood chambers. Obviously there must be a heavy flow of considerable duration for best results. One thing worth considering is that a colony in a two- story brood chamber is less likely to put pollen in sections than a colony in a single-story brood chamber.

Furthermore, there is much less labor involved in double-brood chamber than in single-story manipulation. Labor is one of the biggest items in business today. Also, all of the combs of brood are kept on the colony instead of being transferred to another hive or hives as is the case with single-story management when the first comb supers are put on. With double-story management, each colony is likely to have ample stores for winter after the surplus comb honey is removed. —Ed.]

(The pictures on these two pages were **taken by R. Ridgway, Jamestown, North Dakota.)**

XUM

Beekeeping in Alaska

By S. S. West, College, Alaska

Because of the large amount of publicity recently given Alaska, many beekeepers have been wondering whether they might not be able to profit by moving into an undeveloped territory. One even brought up a truckload of nuclei over the Alaska Highway and spent the summer of 1948 in the Matanuska Valley, but he went back, discouraged, to California. My advice is: Don't believe anything you read or are told about Alaska until you have seen it or done it yourself. You will not believe this article anyway, but at least have a look before you spend your money.

The history of beekeeping in Alaska is much the same as that of farming in general. After 1900, stable centers of mining developed and required fresh food, so land was cleared and farmers, mostly Scandinavian, began to supply it. In 1916 President Wilson signed the railroad bill, and more men left mining for homesteading in anticipation of a boom. The result, however, was just the opposite of what had been expected. Improved transportation made food from Outside competitive with that grown in Alaska. Many persons even preferred Outside products at higher prices. At the completion of the railroad to Fairbanks there began a decline in farming which has never stopped, and even dairies are now staggering under the competition of flown-in milk. If the railroad is extended to the States, Alaskan farming will be as good as dead.

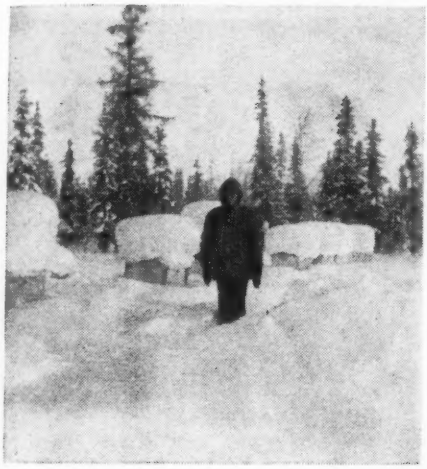
But what about all the homesteaders coming to Alaska? Some fail early and go back home. Most of them prove up and do not farm afterward. Veterans can get 160 acres by merely living on the land seven months without even clearing any. Almost all of those who continue to farm do so on a part-time basis, working their 40 hours a week at a job in town (or mining, or trapping, or keeping store in the more remote communities). Outside the Matanuska Valley there are very few full-time farmers.

It is a good country for the self-sufficient farmer, but he must be as tough as an old-time Swede. He can't have the conveniences of civilization. Even as a professor at the University of Alaska, I have lived with four children in a cabin of 600 square feet with no plumbing except the pitcher pump at the sink. He can't live off the country, either. Game is already seriously depleted, and one can shoot a deer in Wisconsin much more easily than a caribou in Alaska. Still, the scenery is beautiful, the climate invigorating, and the sunsets equalled nowhere in the world.

My bee yard is beautiful in summer

Bees do fairly well in even the coldest climate, and there are several species of wild bees here which winter over somehow. These wild bees look much the same as Italians except for color. Wintering a hive in the open, however, is a different matter. What will work in Minnesota, with a minimum of minus 20 degrees, fails in week-long spells of minus 40 degrees. I tried outside wintering two winters, but lost colonies during each 40-below period, until I ended with nothing but a lot of dead bees to sweep out.

Cellar wintering can be used, for, even when the air temperature is minus 60 degrees, the soil at a depth of one inch never goes below plus 10 degrees. George Moore, a local homesteader, has cellar wintered two colonies for many years. However, at the present air express rates



It's beautiful in winter, too—but—

it is cheaper to ship in package bees to the large towns like Fairbanks and Anchorage. Fifteen-cents-a-pound freight on a package comes to a good deal less than one can make by selling 30 pounds of honey, but the costs rise to 40 or 50 cents a pound for isolated settlements, and there one had better try wintering.

Bees wintered on the stand are lost by multiple starvation, not by freezing. They just will not shift the cluster to full frames at minus 40 degrees. Many books state that single bees are paralyzed at plus 40 degrees, but that is far from true. I have seen one fly out of sight at minus ten degrees on a cloudy day, and they frequently crawl on the outside of the hives at minus 20.

The history of beekeeping in Alaska can best be found in the yearly reports of the experiment stations of the U. S. Department of Agriculture from 1900 to 1934. No new material appears after the latter date. The first attempt was made by a priest of the Russian Orthodox Church at Sitka in 1900. He had an apiary of 400 colonies near Moscow and was interested enough to have several hives shipped complete from Seattle to Sitka. The bees did well, but he must have divided the colonies too frequently, for they appear to have died the second winter. The U.S.D.A. Experiment Station at Matanuska twice "experimented" with bees—meaning that the station acquired a few colonies and had them cared for by a nearby homesteader because no one on the staff knew anything about bees. The bees were several times wintered, both in a cellar of the station and in an unheated log building. (Matanuska is 300 miles south of Fairbanks and has a milder but windier climate.) During the past 50 years many homesteaders have kept a colony or two to supply their own needs.

It is well to remember the tremendous variation in climate from one part of Alaska to another. Annual rainfall varies from 200 inches in the South to about 10 inches on the Arctic slope. Winter minimum temperature goes from just under freezing in the South to lower than minus 60 degrees on the Yukon, and summer maximum from very mild in the South to 100 degrees or more on the Yukon. There is almost no wind in the interior during the winter, but Matanuska has winds all year which cause serious wind erosion in the summer and winter kill pastures by stripping off the snow. The growing season is long where there is too much rain to grow things, and too short elsewhere. It averages 90 days in Fairbanks.

Although an all-time maximum of 200 pounds of honey from one colony has been reported from Wrangell, the average to be expected in most places appears to be about 50 pounds. Out of four seasons here, I have had only one good one. In 1946 the honey flow was good all summer—so, of course, I was short of equipment on account of a shipping strike. 1947 just about made expenses. In 1948 the nectar was rained out, and I got 5 pounds per colony of honey dark as engine oil and very pungent. Rain fell during all of June and most of July of 1949, and my yield averaged 20 pounds. This is the wettest dry country in the world. Most of the rain falls in the middle and late summer, and it falls as a drizzle during the sunny part of the day. Then the sun shines all night, but the bees do not work at night — probably on account of union rules.

The honey flow, when it exists, is steady and about six weeks long, running from mid-June to the end of July. I receive my packages about May 5 to 10, and the willows

(Continued on page 322)

The Story of a Colony Destroyed by Wax Moth

By Martin N. Ralph, Vermont

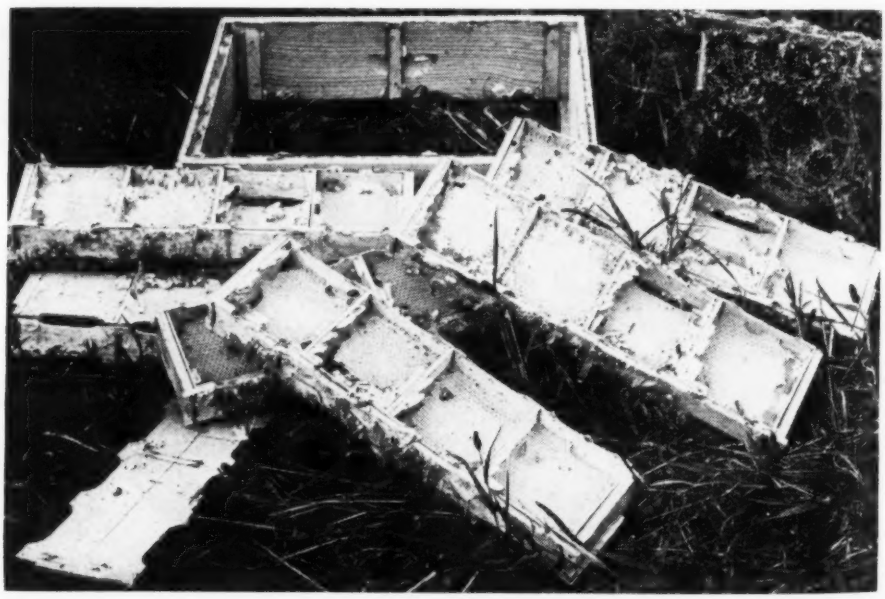
A beekeeper who prefers to be anonymous noticed the black, oily, sandy appearing deposit showing at the entrance to his hive, which had not been inspected for several weeks. On inspection he discovered that the honey board and top of the super were covered with cocoons and webs. Not having seen the symptoms before, he called on a neighboring beekeeper for advice, who took the photographer with him.

On removing the super, still more cocoons and web, together with white crawling worms, were seen to have spread all through the hive. The diagnosis was bee moths.

On taking out the first frame it was evident that the hive had been completely destroyed. The neighbor called in believes that after the hive had last swarmed something happened to the new queen on her nuptial flight, leaving the colony queenless at the crucial moment when the moths were spreading throughout the combs. Had the beekeeper discovered the invasion in time, the addition of a couple of frames of brood with workers from another hive might have enabled the colony to drive out the moths.

The colony might have been assisted earlier by the beekeeper cutting out the tunnels made by the moths through the comb, at the same time as additional workers were borrowed from another hive. These moth tunnels have a slimy, mucous appearance, and are easily recognized on inspection. However, by the time the moths were discovered, it was too late, as all the bees had been destroyed, and all the brood and honey eaten by the white worms. There were only a few cells of pollen left untouched.

After verifying the complete destruction, the ruined combs were cut out and burned. The hive body and super were later soaked in scalding water to destroy any larvae that might have remained in the crevices. Sulfur fumes or paradichlorobenzene are also recommended to kill the moths.



The destruction extended to the wax of the comb sections. The sections were also burned. A fully developed moth can be seen in the second section of the front frame in the photograph.

Fumigants Used to Control Wax Moth in Stored Combs

Characteristics of the Fumigants

Fumigant	Poisonous to humans	Inflammable	Explosive	Quantity used for 5 supers	Quantity used per 1000 cu. feet of storage space
Paradichloro-benzene	Relatively non-poisonous	No	No	3 ounces or 6 tablespoonfuls	5 to 10 pounds
Calcium cyanide or Cyanogas A Dust	Extremely poisonous	No	No	½ ounce or 1 tablespoonful	1 to 2 pounds of 88% calcium cyanide
Methyl bromide	Extremely poisonous	No	No	Not recommended	1 to 2 pounds
Carbon disulphide	Yes	Highly Inflammable	Highly Explosive	1 ounce or 2 tablespoonfuls	10 pounds
Sulphur	Irritating	No	No	2 ounces	4 to 8 pounds

[This article is from a mimeographed sheet put out by the New York State Beekeepers' Association at their meeting held on November 12, 1949, in Syracuse in connection with a panel discussion on wax moth control.

It seems safe to say that hundreds of thousands of dollars worth of good combs are riddled by wax worms each season. The wax moth is more common and destructive in the South than in the North. There are a few regions of the North where the wax moth is not found.

Populous colonies of bees are likely to repel the wax moth but weak colonies may fall prey to the ravages of the moth. It surely pays to take proper care of good combs that are not in use on strong colonies of bees. Such combs not in use—piled up in the apiary house—should be treated periodically with one of the fumigants mentioned.—Ed.]

Note:

1. Length of treatment for above fumigants should not be less than 12 hours and preferably 24 hours. Keep paradichlorobenzene in supers throughout the entire period of storage.

2. Inspect supers every two or three weeks and repeat treatment if necessary.

3. For best results storage rooms and stacks of supers should be made as air-tight as possible.

4. The above fumigants are more effective at high temperatures (above 65 degrees F.). When the wind velocity is low better results are secured.

5. Since storage at low temperatures will reduce insect activity it is advisable to store supers in a cold cellar or unheated building. If moth infestation is observed fumigate before placing supers in storage.

6. Methyl bromide is the only one of these fumigants which readily destroys wax moth eggs.

7. Beeswax tends to pick up and retain the odor of paradichlorobenzene.

Warning:

1. Place large signs outside of building when fumigants are in use.

2. Calcium cyanide and methyl bromide are deadly poisonous to all ainmal life. If using these materials in a large scale operation, a reputable gas mask should always be used and every precaution taken. Never use either of these poisons in or adjoining a residence or in a building in which animals are kept. Be sure to ventilate the building for at least 24 hours before entering it.

Additional Information Concerning Fumigants Used to Control Wax Moth in Stored Combs

When fumigating a room full of supers it is advisable to space or stagger the supers so as to admit the maximum amount of gas to the combs.

1. **Paradichlorobenzene** is a crystalline substance which vaporizes at room temperature forming a gas which is about five times heavier than air. In tightly closed stacks of supers the crystals vaporize and disappear in a few weeks. The treated supers should be exposed to the air for a few days before being placed on the colonies.

2. **Calcium cyanide** (Cyanogas A dust) is a mixture of calcium and cyanide which in the presence of moist air forms a deadly poisonous hydrocyanic acid gas which is slightly lighter than air. The residue after the gas has been liberated is largely calcium or lime. Slow acting Cyanogas G dust is safer to use. For best results it is advisable to increase moisture in room. Newspapers may be moistened and the cyanide spread on these papers.

3. **Methyl bromide** is a colorless gas which is about three times heav-

XUM

ier than air. For commercial use it is compressed into a liquid and placed in containers holding from one to fifty pounds of the liquid. Since the liquid boils at temperatures above 40 degrees F. special applicators are used to release the liquid from the containers.

4. **Carbon disulphide** is a liquid which volatilizes at room temperature into a gas which is about three times heavier than air. In using this material the supers are piled up the same as for Cyanogas and the liquid is placed in a flat dish on the top super. An empty super with a lid is placed over the dish on a pile of supers to confine the gas.

5. **Sulphur** may be moistened with alcohol and ignited or it may be set on fire by placing it on live coals. The fumes (sulphur dioxide gas) are about three times heavier than air. The container holding the burning sulphur should be placed on bricks in a larger pan containing water to avoid danger of fire. It should be remembered that sulphur fumes bleach certain colors in fabrics and tarnish metals of various sorts.

The approximate cost of the above fumigants per 1000 cubic feet are as follows: These prices are only relative since the latest figures are not available:

Paradichlorobenzene	$2.00	to	$5.00
Calcium cyanide	1.00	to	1.50
Methyl bromide	1.60	to	2.00
Carbon disulphide	1.00	to	2.50
Sulphur	.10	to	.75

Note: While other fumigants such as carbon tetrachloride, naphthalene, chlorosol, and proxate have been used but they are not recommended.

U. S. Dept. of Agriculture to Assist in Expanding Honey Outlets

The U. S. Department of Agriculture announced today a program to encourage both new domestic uses and the exportation of honey. The program is expected to be of value in disposing of the annual honey surplus and in stabilizing returns to beekeepers.

Payments of not more than 4.5 cents per pound will be made to packers who sell honey into diversion outlets at the market price less the amount of the payment. The diversion outlet must be approved by the Department and honey must be employed in the outlet before payment can be claimed. Payments also will be made to exporters of honey. The export rate of payment will be 4.5 cents per pound or 50 percent of the f.a.s.* sales price or domestic market price, whichever is lowest. Total export and diversion sales to be approved for payments up to July 1, 1950, are limited to 7 million pounds. Approval will be given for payments on an additional poundage during the last six months of calendar 1950.

*free alongside ship

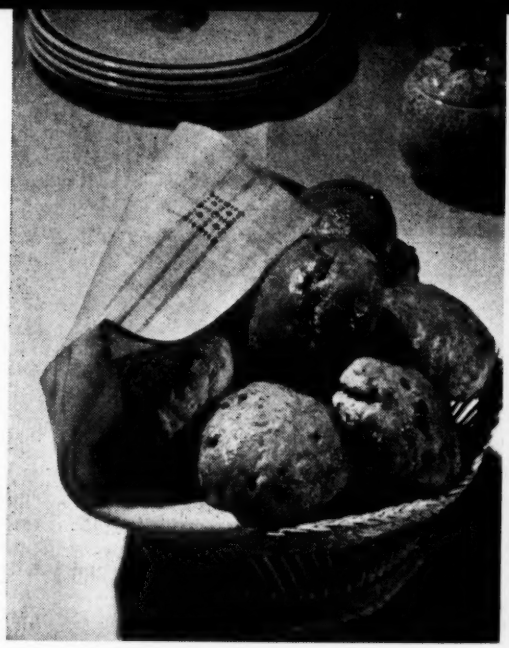
Diversion outlets for which payments will be approved will be "new use" outlets. These will include products in which no honey has been used since January 1, 1948, or those products for which manufacturers develop new formulas entailing the increased use of honey.

The export part of the program is designed to assist private traders to sell honey to destinations outside North, Central, and South America. Honeys of certain flavors have customarily found more ready acceptance in the European market than in the domestic.

Details of the program, including application forms, are expected to be available about mid-April and may be obtained at that time from Harold J. Clay, U. S. Department of Agriculture, Fruit and Vegetable Branch, Washington 25, D. C.; R. M. Walker, 2180 Milvia Street, Berkeley, California; or Chester A. Hallnan, Room 620, 90 Church Street, New York 7, N. Y.—U. S. Dept. of Agriculture, Production and Marketing Administration, Washington, March 30, 1950.

Good to Eat

By Mrs. Benj. Nielsen



**Honey raisin buns.—
Photo courtesy Kellogg Co.**

With housecleaning days behind us, paint gleaming, glass sparkling, curtains crisply clean, our package bees nicely started, earth newly green, and fragrant snowy blossoms breath-takingly lovely, we can catch our breath—actually feel the urge to try out some new recipes on the family.

For that afternoon snack or when unexpected guests drop in try some golden brown honey buns and a cup of fragrant steaming hot, honey-sweetened tea Yum!

And to perk up those health-giving fruity salads make up this subtly flavored honey dressing, sure to call for repeat performances. Better to serve it the same day it is made. Accompany your salads with thin slices of honey orange bread, buttered or not, as you like.

Honey Raisin Buns

One-half cup bran, ½ cup raisins, ¾ cup milk, ¼ cup honey, 2 cups sifted flour, 4 teaspoons baking powder, 1 teaspoon salt, and ¼ cup shortening.

Combine bran, raisins, milk, and honey. Allow to stand 10 minutes. Sift flour, baking powder, and salt together; cut in shortening until mixture resembles coarse cornmeal. Add first mixture, stirring until a soft dough is formed. Turn onto floured board, knead lightly, and shape into a roll. Divide into 12 equal pieces. Shape into balls and flatten out to ½-inch thickness. Place on greased pan and bake in moderately hot oven, 425 degrees F., about 20 minutes.

Buns may be brushed with a mixture of honey and melted butter before baking or they may be lightly frosted with confectioners' sugar icing as soon as removed from oven.

Honey Fruit Salad Dressing

Two eggs, ½ cup honey, juice of 1 lemon or lime, 1 cup whipping cream. Beat eggs until very light, beat honey in gradually, and stir in lemon or lime juice. Cook over boiling water until thick; cool. Whip cream until stiff and fold into the honey mixture. Chill for at least 1 hour before serving.

Honey Orange Bread

Two tablespoons shortening, 1 cup honey, 1 egg, 1½ tablespoons grated orange rind, 2½ cups sifted flour, 2½ teaspoons baking powder, ½ teaspoon soda, ½ teaspoon salt, ¾ cup orange juice, and 1 cup bran.

Blend shortening and honey; add egg and orange rind and beat well. Sift flower with baking powder, soda, and salt and add to first mixture alternately with orange juice. Add bran. Pour into greased loaf pan and bake in slow oven, 325 degrees F., for 1 hour and 10 minutes.

Honey Drop Cookies

One-third cup shortening, ½ cup honey, 2 eggs well-beaten, ½ cup sour cream, 1¾ cups sifted flour, 1 teaspoon baking powder, ¼ teaspoon salt, ½ teaspoon soda, ½ cup chopped nutmeats, ½ cup chopped dates, ½ teaspoon nutmeg or 1 teaspoon vanilla, and 1 cup oven-popped rice cereal.

Blend shortening and honey. Add eggs and cream. Sift flour with baking powder, salt, and soda; add to first mixture. Stir in nutmeats, dates, flavoring, and cereal. Drop by teaspoonfuls onto lightly greased baking sheet. Bake in moderate oven, 375 degrees F., about 20 minutes. Yield: 2 dozen cookies 4 inches in diameter.

Four Years with Bees

By S. M. A.

(Continued from April)

Swarms are considered a loss and they may well be, but the hive that swarmed twice last spring gave me over two supers of honey. That does not mean that I approve of letting swarms get ahead of you if you can prevent it, but when they do I do not believe in giving up hopes for the season. Intelligent operations at this point may save the day.

Fig. 1 shows Mr. Fischer checking for queen cells in a hive that has just swarmed. To look at the frame in his hands one might think the colony was preparing to swarm. But all the hives last spring were reeking with bees, brood, pollen, and honey.

The weather gave me false security and one morning I found a swarm hanging impudently on the branch of a tree waiting for me to take care of them. It was Mr. Fisher's first experience with a swarm and he must have had some misgivings as he ascended the ladder, basket in hand.

Fig. 1.—Checking queen cells

As he shook the tree most of the bees hit the basket all right but some missed and scattered themselves promiscuously over his clothes. I saw him cringe and look at them so I reassured him. In a few seconds we were down on our hands and knees looking for the queen.

My proceedings with swarms have been varied but the most successful has been to give the bees the idea that they are making a grand job of the business of swarming and then later reunite them. I gave the food chamber to one swarm by placing it on the hive stand beside the old hive and allowing the queen and a few bees to enter it. Then I shifted the sheet to the original hive, where a queen cell had been reserved. As soon as she hatched out and started laying, the old queen was removed from the food chamber hive and all young brood placed in the brood chamber and sealed brood in the food chamber and above the excluder where they would go to work with a vengeance.

Fig. 2.—Looking for the queen

Last year I simply took out the queen and let the swarm go back as Fig. 3 shows. I do not believe it is as satisfactory as the first plan. The bees seem to think they are having their say when they can separate even if only for a short time. I have also tried a two-queen colony and that worked well, too, and my plans for this year lie along those lines, only I plan to extend the queen's domain by giving an additional half super to both queens with three honey supers in between and two excluders. That way I should average a hundred pounds of honey and three supers of pollen and honey for the winter.

Fig. 4 shows a swarm that left the hive without a queen and is returning of its own accord.

Despite the fact that they mean extra work, swarms are interesting and one learns much from them. I usually go right into the whirling, swirling mass of bees and watch them finally settle on bush or tree.

Flight of a Young Queen

One time I witnessed a young queen taking her first flight and it was an interesting sight. I had placed a queen cell above the excluder as I wished to give Mr. Fischer a colony of bees and a queen from that particular hive. Heavy rains prevented me from watching it and then one day the weather cleared and I bethought me of that cell and of the inability of the drones up there to get out, so I removed the cover and instantly bees poured up from below, taking to wing. Then what was my surprise to see two workers escorting the queen and trying to get her to do something. At first she was averse to it and went back but they brought her out again and after some urging they at last succeeded in getting her to fly. She flew up just a bit to test her wings and then came down, but they kept at her until finally she rose with the grace of a professional and soared in the air accompanied by some workers. Shortly after she returned but tried to avoid being seen. Later I gave her to Mr. Fischer and in a month she had built the new colony up to swarming strength. She is the great-granddaughter of a queen I received from the East and I never saw such layers. They will fill even the outer frames with brood and do it so fast that one would wonder if there were not two queens in the hive instead of one.

Fig. 3.—The rest of the swarm going into the parent hive.

Fig. 4.—Swarm that issued without the queen going back again.

A Talk to Beekeepers

By M. J. Deyell

Let's Talk about Swarming

Some one has said that a swarm in May is worth a load of hay, a swarm in June worth a silver spoon, and a swarm in July not worth a fly.

There are a few beekeepers who gauge their success in beekeeping by the number of swarms that issue from their hives during the season. Some beekeepers have each queen's wings clipped so that a swarm can not leave for the woods, but rather will return to the hive because the clipped queen, not being able to fly away with the swarm, will return to her hive, provided the alighting board extends to the ground so that she can easily gain entrance.

There are others who do not clip the queens' wings but permit swarms to cluster on small trees or bushes near by, then hive the swarms. In this way the beekeeper can increase the number of his colonies during the season. However, when a strong colony of bees is divided as is the case when the swarm is put into a hive on a new stand, this hive of bees and the parent hive are not likely to store as much surplus honey as the colony would if the force of bees is not divided by swarming.

Swarm Control Seems Essential

Nowadays most beekeepers try to prevent swarming and in order to do this they must be able to detect early signs of swarming.

It is well that a colony that is preparing to swarm gives ample notice in advance. The bees build queen cells along the lower edges of the brood combs. These cells are easily recognized because they are different from other cells. Instead of being horizontal as are worker and drone cells they are built in a vertical position with the opening at the lower end. They resemble peanut shells in size and shape.

When cells are first started they resemble shallow cups. A little later as the sides of the cells are being built, each cell will be seen to contain an egg. A swarm will issue after the eggs have hatched and the larvae have developed and the cells are capped, which is about eight days after the eggs are deposited in the cells.

M. J. Deyell

In some instances swarming can be prevented by destroying all queen cells when they are first started by giving more comb space, or supers, to avoid congestion.

What To Do if a Swarm Comes Out

The old method of handling a swarm was to put it into a hive on a new stand. A much better method is to set the old, or parent hive from which the swarm issued, on a new stand a few feet away, turning its entrance away from its former position. Another hive containing either frames with full sheets of foundation or drawn combs should be placed on the old stand. Frequently the swarm will cluster on the limb of a tree. Sometimes the swarm clusters on the top of a tall tree which causes the owner to do some tree climbing. If the limb is not large, the limb may be cut off and the swarm shaken directly in front of the hive on the parent stand.

If it is not feasible to saw off the limb, the swarm should be shaken into a large two-bushel basket with a wire wound around one of the handles, so that after the bees are shaken into the basket the handle of the basket may be wired to the limb of the tree temporarily until the swarm, including the bees in the air, have clustered on the inside of the basket which hangs from the limb in such a position that the bees may cluster on the inside below the handle. After the swarm is clustered it may be carried to the hive prepared for it.

A comb of brood taken from another hive and put into this hive intended for the swarm will attract the bees and cause the swarm to get established quickly in the new home.

After two days the parent hive which was moved to the new location should be given a quarter turn to face the same direction as the hive containing the swarm. Then after seven days this old hive may be moved to another location at least 15 feet away and the moving should be done in the middle of the day when a large percentage of the old bees are in the field. When these field bees return and do not find their hive, they will easily find their way into the new hive containing the swarm and will help to increase the population of this hive and, in turn, a larger crop of surplus honey may be expected.

In a short time the old hive that has been moved to the new location will have a young laying queen. If swarming occurs early in the season and the honey flow is long drawn out, this parent hive may store some surplus honey but usually no surplus may be expected from the old parent hive that season.

Swarm Control Measures

1. Careful Selection in Breeding. —Obviously some strains or races of bees are more prone to swarm than are others. It is well to select a strain of bees that does not have pronounced swarming propensities.

2. Large Brood Chamber Hives.— Generally speaking colonies occupying large brood chambers do not swarm as readily as hives with small brood chambers. However, the large brood chamber hive is not proof against swarming.

3. Good Combs. — Obviously a brood chamber consisting of worker cells, rather than large patches of drone cells, results in more comb space for each queen to occupy in egg laying.

4. Distribution of bees within the Hive. — As swarming is caused largely by congestion within the hive it is possible in producing extracted honey to get the bees distributed through the brood chamber and supers of the hive by taking a few combs of brood from the brood chamber and elevating them into one of the supers. This will cause quite a number of bees to leave the

(Continued on page 321)

A small branch with a swarm ready to be put into a hive.—Photo from D. Walter Dunkle, Beaufort, North Carolina.

Dividing Strong Colonies

Dividing in Spring is Profitable in Massachusetts

By R. E. Newell, Medway, Massachusetts

The object of keeping bees with most beekeepers is to make some money, although many of us would undoubtedly keep a few colonies because of our interest in them. Colony management differs in all sections of the country due to climatic and floral conditions, so each beekeeper must work out his own system. A beekeeper must be able to make slight changes in a system to meet the conditions of both colony and floral development. There is no object in having the bees reach the peak of condition for nectar gathering two or three weeks ahead of the honey flow.

Our Canadian friend, J. L. Byer, had a system of management in outapiaries that does not require two-queen colonies and the feeding of pollen supplement. He desires to have his colonies build up normally to reach the peak for the white clover. Colonies with too large a population weeks in advance of white clover would cause unnecessary labor and much feeding to keep them from swarming.

In Michigan and the Midwest the two-queen system gives heavy yields, and the feeding of pollen supplements are necessary. Here in New England where apiaries are smaller and must be scattered three or four miles apart, the two-queen system might not prove convenient or necessary for large-scale operation. Pollen supplement, however, fed to late divisions or swarms that fail to store sufficient natural pollen appears profitable.

I can recall the days spent checking powerful colonies for queen cells some years back. The strongest colonies would build up too rapidly in early spring and require considerable manipulation to keep them from swarming. Such practice today with apiaries scattered over several counties would be quite impossible. The labor involved would be quite a strain and would make beekeeping unprofitable.

During the past few years, orchard rental has caused us to change our system to meet the demand for uniform rental units that would also make good honey-producing colonies on their return from the orchards. Colonies are left with full food chambers of honey in the fall; some exceptionally strong colonies may be left with 75 to 100 pounds of honey and pollen to encourage early spring development. In late April these colonies contain from 12 to 20 or more full-depth frames of brood and bees. Some of them make up as many as three full divisions of eight frames each when divided into rental units the latter part of April and the first of May. All colonies are made as near uniform as possible, each being made to contain about the same amount of brood and bees of all ages. Although there will be some variation in colonies, this system makes the bees more or less uniform so that no individual attention is required to keep the bees from swarming during the period they are in the orchards and up to the honey flow period.

We have found that eight frames of brood and bees the last of April or the first of May will build up into strong producing colonies for our honey flow which starts in mid-June. Beekeepers in other sections of New England may find a larger or smaller division better for their individual conditions. Very little attention is required to keep down the swarming, for we have been selecting our breeding stock from our best colonies. Supers are added at the time the divisions are made, and the honey from the stores of the parent colonies is also equalized to reduce the danger of starvation because of unfavorable weather conditions. The supers allow the bees ample space for incoming nectar and pollen without causing congestion in the brood chamber. Additional supers are added on top when the first super is from one-half to two-thirds full. During the flow periods which follow through the summer and early fall, honey that has been sealed and ripened is removed and the wet combs returned to the bees.

Very little examination of colonies is necessary during this period

except to inspect for AFB before adding supers, and to make sure each colony has a good queen. Colonies should go into the fall period, August 1 to August 15, with good young queens to insure ample young bees for the winter cluster, and the building-up period in early spring. Colonies found with inferior queens at any time during the season are requeened, and this is where a few queens on hand for this purpose are handy. While requeening a colony in September or October here in Massachusetts does not show its effect immediately, such colonies will winter better and be more powerful in early spring. Very old queens—queens two or three years old—are most likely to fail during the winter or early spring before new queens are available for requeening. Such old queens are generally unprofitable and the bees themselves take the matter into their own hands by supersedure in July or August. In regular apiary practice most colonies will be found with queens capable of laying a good cycle of brood for the winter cluster in late August and early September. The beekeeper who regularly inspects his bees will find it profitable to maintain a few queens in small nucs to requeen those colonies which fail to produce this late fall brood, and if the young queens are maintained in fairly strong nucs the additional brood and bees will be of material assistance when added to the colony.

An apiarist must be able to work out the system of management that will work best for him under his own particular conditions. If the honey flow comes early and is of short duration, a two-queen system of management might be profitable. Where the flow is relatively late, a strong colony divided from six to eight weeks before the first main flow will produce as much or more honey in the two hives with less manipulation, and the beekeeper will have two good colonies to winter. The beekeeper with the two-queen system can also save units but to me it would appear to involve much more labor.

Experimenting in a small way is about the only way a beekeeper can find out things for himself. Locations only a few miles from each other may be so much different that some variation in management will be necessary.

You Can Learn a Thing or Two From Your Bee Inspector

By Alfred Beswick, Bethlehem, Pennsylvania

Not many beginners in beekeeping are so fortunate as to have the opportunity of a few field trips with the bee inspector. Yet such was my experience toward the end of this, my second summer, as a backlot beekeeper. It was a pleasant and profitable experience. The inspector, a likable person and a man with many bee inspection years to his credit, gave out freely with information in answer to my many questions and, what is more important, I feel that I have made another friend. I was anxious to see how other men and women kept their bees, and I profited thereby. For the most part the bees were well taken care of though there were a few cases of neglect, some due to ignorance and some to plain carelessness.

One striking case in which two colonies had been completely robbed out because of AFB was due to ignorance of beekeeping on the part of the farmer-beekeeper. Two other separate cases in which wax moth had taken over entirely were due to carelessness. However, this is not an inspector's report.

The beekeepers I met were both interesting and cooperative, though I believe there are rare exceptions where some beekeepers resent inspection.

The weather was ideal for our work and the countryside around these parts with its hills and dales is always pleasurable in the summer months.

No matter what my future in beekeeping is, whether large or small, many years or few, I shall always look on my trip with the inspector as one of the bright spots in my life.

Who's Who in Apiculture

To supply a handy reference of the names and addresses of state and provincial apiary inspectors, secretaries of beekeepers' associations, extension workers in beekeeping, and other information often needed by our readers, we have corrected our Who's Who in Apiculture as of April 1, 1950.

State or Province	Beekeeping Taught in Agri. College	Bees on Combs Admitted	Net Weight Law: Extracted	Net Weight Law: Comb	Inspector State or Province	Secretary State Association
Ala.	Yes	No	Yes	Yes	C. A. North, Montgomery	F. E. Guyton, Auburn
Alta.						
Ariz.	No	Cert.	Yes	Yes	Paul R. Grant, Phoenix	C. L. Benson, Phoenix
Ark.	Yes	Cert.	Yes	Yes	J. H. Davis, Little Rock	R. H. Davis, Little Rock
B. C.	No	No	Yes	Yes	W. H. Turnbull, Vernon	W. H. Turnbull, Vernon
Calif.	Yes	Cert.	Yes	Yes	H. M. Krebs, Sacramento	T. S. Davis Sacramento
Colo.	No	Cert.	Yes	Yes	Albert L. Crouse, Denver	Vernon Culhane, Falfa
Conn.	Yes	Cert.	Yes	Yes	M. P. Zappe, New Haven	Chas Rost, Meriden
Del.	No	Cert.	No	No	John Dukes, Townsend	L. A. Stearns, Newark
Fla.	Yes	Cert.	Yes		H. S. Foster, Gainesville	H. E. Randell, Moore Haven
Ga.	No	Permit	Yes	Yes	None	R. Riner, Pres., Sylvester
Idaho	No	Cert.	Yes	Yes	Carl F. Feeler, Nampa	Ellis Stoddard, Boise
Ills.	Yes	Permit	Yes	Yes	Carl E. Killion, Paris	H. Taylor Pleasant Plains
Ind.	No	Cert.	Yes	Yes	Gilbert Perigo, Indianpls.	Gilbert Perigo, Indianpls.
Iowa	Yes	Cert.	No	No	F. B. Paddock, Ames	Henry Hausen, Humboldt
Kans.	Yes	Cert.	Yes	Yes	R. L. Parker, Manhattan	D. Meredith, Tonganoxie
Ky.	Yes		No	No	Harry Walters, Frankfort	J. E. Dierken, Louisville
La.	Yes	No	Yes	Yes	S. J. McCrory, Bat. Rouge	Roy Wurth, Cade
Me.	Yes	No	Yes	Yes	None	H. Winslow, Cumber. Ctr.
Man.	Yes	Cert.	Yes	No	E. C. Martin, Winnipeg	E. C. Martin, Winnipeg
Md.	Yes	Cert.	Yes	Yes	G. J. Abrams, College Pk.	Geo. J. Abrams, Col. Park
Mass.	No		Yes	Yes	Burton N. Gates, Boston	W. R. Parker, W. Boylston
Mich.	Yes	No	Yes	Yes	D. P. Barrett, Lansing	R. H. Kelty, E. Lansing
Minn.	Yes	Cert.	Yes	Yes	C. D. Floyd, St. Paul	C. G. Langley, Red Wing
Miss.	Yes	Permit	Yes	Yes	Clay Lyle, State College	Clay Lyle, State College
Mo.	Yes	Cert.	Yes	Yes	R. E. Roselle, Jeff. City	Virgil Burke, Columbia
Mont.	No	Permit	Yes	Yes	J. H. Pepper, Boseman	Mrs. O. R. Burdett, Laurel
Nebr.	Yes	Cert.	Yes	Yes	R. J. Walstrom, Lincoln	E. A. Wolfe, N. Platte
Nev.	No	No	Yes	Yes	George G. Schweis, Reno	No association
N. B.						
N. H.	Yes	Cert.	Yes	Yes	J. G. Conklin, Durham	W. J. Morse, Durham
N. J.	No	Cert.	Yes	Yes	Paul L. Holcombe, Trenton	M. Stricker, Maple Shade
N. M.	No	Cert.	Yes	Yes	J. R. Poe, State College	E. C. Edwards, Los Lunas
N. Y.	Yes	Cert.	Yes	No	A. C. Gould, Albany	E. T. Cary, Syracuse
N. C.	Yes	Cert.	Yes	No	James F. Green, Raleigh	F. B. Meacham, Raleigh
N. D.	Yes	Permit	Yes	Yes	J. A. Munro, Fargo	Rudolph Otterson, Fargo
N. S.	Yes	No	Yes	Yes	E. A. Karmo, Dept. of Ag.	E. D. Craig, Kentville
Ohio	Yes	Cert.	Yes	Yes	S. E. Bailey, Columbus	Walter Thomas, Medina
Okla.	Yes	Cert.	Yes	Yes	C. A. Bower, Okla. City	C. A. Bower, Okla. City
Ont.	Yes	Permit	Yes	No	P. W. Burke, Guelph	G. F. Townsend, Guelph
Ore.	Yes	Cert.	Yes	Yes	A. Burr Black, Salem	G. J. Church, Portland
Pa.	Sum.	Cert.	Yes	Yes	H. B. Kirk, Harrisburg	H. M. Snavely, Woodbury
Que.	No	No	Yes	No	Jules R. Methot, Montreal	J. Prud'homme, Laprairie
R. I.			Yes	Yes		
Sask.	No	No	Yes	No	J. H. Arnott, Regina	M. R. Seymour, Tisdale
S. C.	Yes	Cert.	Yes	Yes	W. H. Purser, Clemson	G. C. Gaskin, Greenville
S. D.	No	Permit	Yes	Yes	Dean M. Martin, Pierre	Dean M. Martin, Pierre
Tenn.	No	Permit	Yes	Yes	L. H. Little, Nashville	L. H. Little, Nashville
Texas	Yes	Cert.	Yes	Yes	F. L. Thomas, College Sta.	L. A. M. Barnette, Bellaire
Utah	Yes	No reg.	Yes	Yes	J. I. Curtis, Salt Lake City	J. I. Curtis, Salt Lake City
Vt.	No	No	Yes	Yes	Roger Jones, Johnson	Chas. Mraz, Middlebury
Va.	Yes	Cert.	Yes	Yes	H. W. Weatherford, V. Hill	H. W. Weatherford, V. Hill
Wash.	Yes	No	Yes	Yes	C. F. Turnipseed, Bryant	C. A. Dark, Spokane
W. Va.	No	Cert.	Yes	Yes	No inspection	No association
Wisc.	Yes		Yes	Yes	John Long, Madison	H. J. Rahmlow, Madison
Wyo.	No	Cert.	Yes	Yes	Geo. B. Harston, Powell	Geo. B. Harston, Powell

United States—Investigation and Demonstration in Beekeeping, James I. Hambleton, Bureau of Entomology and Plant Quarantine, Beltsville, Md.; Southern States Field Laboratory, W. W. Whitcomb, Baton Rouge, La.; Pacific Coast Laboratory, Geo. H. Vansell, Davis, Calif.; Inter-Mountain Laboratory, A. P. Sturtevant, Laramie, Wyo.; Bee Culture Field Station, C. L. Farrar, Madison Wisc.; University of Arizona, Tuscon, Ariz. Research

Centers: Logan, Utah, Frank E. Todd; Columbus, Ohio, Alan W. Woodrow; San Antonio, Texas, A. H. Alex; Bee Breeding Station, Kelley's Island, Ohio, W. C. Roberts in charge.

Dominion of Canada—Investigation and Demonstration in Bee Culture, Cecil A. Jamieson, Dominion Apiarist, Experiment Farm, Ottawa, Canada. Bee Breeding Station, Pelee Island, Ontario. Arthur Bushell in charge.

Apiary Inspectors of America—President, J. A. Munro, Fargo, N. D.; Secretary, F. L. Thomas, San Antonio, Texas.

American Beekeeping Federation—President, Roy Grout, Hamilton, Ills.; Vice-President, N. C. Jensen, Macon, Miss.; Secretary-Treasurer, Glenn O. Jones, Atlantic, Ia.

Bee Industries Association—Chairman, Alan I. Root, Medina, Ohio; Secretary, R. H. Dadant, Hamilton, Ills.

Southern States Beekeepers' Federation—President, H. S. Foster, Gainesville, Fla.; Vice-President, Raymond Fischer, Little Rock, Ark.; Secretary-Treasurer, Leslie H. Little, Nashville, Tenn.

American Bee Breeders' Association—President, M. S. Fortune, Mayhew, Miss.; Vice-President, Leslie M. Little, Nashville, Tenn.; Secretary-Treasurer, Mr. and Mrs. J. F. McVay, Jackson, Ala.

American Honey Institute—Chairman, Lewis W. Parks, Madison, Wisc.; Director, Mrs. Harriett M. Grace, Madison, Wisc.

Canadian Beekeepers' Council—Secretary, Norman Dyment, Smithville; Vice-President, Peter Kowalski, Edmonton; Secretary-Treasurer, Roy Pugh, Tisdale.

Extension Specialists in Beekeeping—Alabama, W. A. Ruffin, Auburn; California, J. E. Eckert and H. H. Laidlaw, Jr., Davis; Colorado, J. O. Moffet, Fort Collins; Connecticut, Elbra Baker, Brooklyn; Delaware, L. A. Stearns, Newark; Florida, John D. Haynie, Gainesville; Illinois, V. G. Milum, Champaign; Iowa, F. B. Paddock, Ames; Maine, C. O. Dirks, Orono; Manitoba, E. C. Martin, Winnipeg; Maryland, George J. Abrams, College Park; Massachusetts, Extension Service, University of Mass.; Michigan, R. H. Kelty, East Lansing; Missouri, Virgil Burke, Columbia; Nebraska, Lee Reents, Lincoln; New Hampshire, J. R. Hepler, Durham; New Jersey, Robert S. Filmer, New Brunswick; New York, William Coggshall, Ithaca; North Carolina, Wm. A. Stephen, Raleigh; North Dakota, Wayne J. Colberg, Fargo; Nova Scotia, E. A. Karmo, Dept. of Agri.; Ohio, Charles A. Reese, Columbus; Oklahoma, C. F. Stiles, Stillwater; Ontario, G. F. Townsend, Guelph; Pennsylvania, W. W. Clarke, State College; Quebec, Jules R. Methot and S. M. Deschenes, Montreal; Saskatchewan, J. H. Arnott, Regina; South Carolina, E. S. Prevost, Clemson; Virginia, George H. Rea (4 months); Washington (limited) Herman F. Menke, Pullman.

Professor in Charge of Courses in Beekeeping—Alabama, F. E. Guyton, Auburn; Arkansas, D. J. Hayes, State College; California, J. E. Eckert, Davis; Connecticut, Elbra Baker, Brooklyn; Florida, Milledge Murphey, Gainesville; Illinois, V. G. Milum Champaign; Iowa, O. W. Park, Ames; Kansas, R. L. Parker, Manhattan; Kentucky, W. A. Price and L. H. Townsend, Lexington; Louisiana, W. W. Whitcomb, Baton Rouge; Maine, C. O. Dirks, Orono; Manitoba, A. V. Michener, Fort Gary, and E. C. Martin, Winnipeg; Maryland, George J. Abrams, College Park; Massachusetts, Frank Shaw, Amherst; Michigan, R. H. Kelty, East Lansing; Minnesota, M. H. Haydak, St. Paul; Mississippi, C. A. Wilson and Clay Lyle, State College; Missouri, L. Haseman, Columbia; Nebraska, O. S. Bare, Lincoln; New Hampshire, J. R. Hepler, Durham; New York, E. J. Dyce, Ithaca; North Carolina, Wm. A. Stephens, Raleigh; North Dakota, James A. Munro, Fargo; Nova Scotia, Endel A. Karmo, Dept. of Agri.; Ohio, W. E. Dunham, Columbus; Oklahoma, Gus Bieberdorf, Stillwater; Ontario, G. F. Townsend, Guelph; Oregon, H. A. Scullen, Corvallis; Pennsylvania, E. J. Anderson, (short course), State College; South Carolina, D. D. Dunavan, Clemson; Texas, F. L. Thomas, College Station; Virginia, J. M. Grayson, Blacksburg; Washington, Herman F. Menke, Pullman; Wisconsin, C. L. Farrar, Madison.

Where we did not hear from a state or province we were unable to give any information.

Mantis and Robber Fly Not the Same

By Edwin Way Teale
Baldwin, Long Island, New York

In the March issue, the article by Lucy E. Barrow Trask, "It is a Flying Buccaneer", gives the impression that the robber fly and the praying mantis are the same. They are insects that belong to entirely different orders and are not even closely related. The robber fly is a true fly, a member of the **diptera** order, while the mantis belongs to the **orthoptera** order and is related to the grasshoppers. I thought I should make this statement inasmuch as I am quoted as the authority in the article. I am not familiar with the reference to me as appearing in "Literature and Life, Vol. 1, Miles-Keck", but assume it is a text which quotes from some of my books. Certainly I never confused the mantis and robber fly and I hope some correction can be made to set straight any readers who may have come to the conclusion that these insects are the same. The mantis, incidentally, never swoops down and captures its prey in the air as does the robber fly. It lies in wait or slowly stalks it on vegetation.

Asked and Answered

How to Get Rid of Ants

Question: Ants are bothering my hives of bees. What should I do about it?—Judge F. R. Mathews, Ala.

Answer: Ants seldom trouble good colonies of bees in the North, but in the South where ants are more numerous, radical measures must sometimes be taken. In order to get rid of them they must be cleaned out of the hives and the hives placed on stands or benches, the legs of which rest in cans filled with some liquid such as coal tar or crude petroleum, which will prevent the ants from crawling up into the hives. Ant hills or nests in the apiary should also be destroyed. To do this, make several holes an inch or so in diameter and about a foot deep, through the nest. Then pour a tablespoonful of carbon bisulphide into each hole and stop up the holes with earth so that the fumes will permeate every part of the nests. Great care should be taken, since the carbon bisulphide is very explosive when mixed with air. If the nests are not large, kerosene may be used instead of carbon bisulphide — about three times as much of the kerosene being required.

Single vs. Double Story Colonies for Pollination

Question: What is the comparative value for pollination between a single-story hive with, say, six frames of brood and a two-story with from ten up.—Wm. Brubaker, a keeper of bees for 55 years, Va.

Question: The double or two-story colonies of bees are likely to be much better for pollination than the single stories. Of course, a great deal depends on the amount of honey left in the upper story in the fall. Theoretically, this upper story, or food chamber, is supposed to be practically filled with honey in the fall in addition to some honey in the lower chamber. If there is a good queen and there are good combs, in addition to this abundance of stores, such colonies are likely to be very populous in bees and consequently are valuable for pollination work. Obviously, the two-story hives are a little more difficult to handle than are the single-story hives. It also seems obvious that very strong two-story colonies are worth more in terms of rental prices than are single-story hives. You mention six combs of brood in a single-story hive at the time of pollination.

Rendering a Small Amount of Old Combs and Cappings

Question: I have a few old combs and cappings on hand. What should I do with them?—Hamilton Stear, Pa.

Answer: If you have only a small amount of old combs and cappings to render into wax, place this material in a burlap sack, tie the mouth of the sack securely, and place it in a metal container of boiling water. It is well to weight the sack down to the bottom of the container with a couple of bricks. The melting point of beeswax is around 145 degrees F and the boiling point of water is 212 degrees F. The melted wax, being lighter than water, will rise to the surface and when the mixture is allowed to cool the wax on the surface will congeal and can be lifted off in a solid chunk. The burlap sack helps to prevent coarse foreign matter that might be in the wax from getting mixed with the solid chunk of wax. This is a simple method of rendering a small amount of old comb.

Frames Difficult to Remove from Hives

Question: A few of my hives have frames that are very difficult to get out. What can I do to simplify this work?—Parker Ferris, N. Y.

Answer: It is sometimes difficult to remove the frames from a hive that has the end bars of the frames glued together with propolis. About the only way to manage it is to apply plenty of smoke to the top of the hive to drive the bees down, then push your hive tool down between the side of the hive and the end bars of the outside frame. If possible, loosen this frame from the adjacent frame and remove it, then take out the other frames if possible. It is well to scrape the propolis from the end bars before the frames are put back into the hive. When you can get out one frame it is an easy matter to remove the other frames provided, of course, the combs are built straight in wired frames. If the combs are criss cross and built into frames that did not have full sheets of foundation, it is impossible to remove such combs from the hive.

Second Glances

By C. M. Isaacson

Insuring cross pollination of orchards by forcing bees to walk through collected pollen of suitable varieties when leaving the hive is perhaps a new idea, but one that should be quite successful. It is well for anyone trying the method to note, however, that bee-collected pollen has low viability. As Mr. Mraz says, research on this problem should be well worthwhile (page 201).

Keeping the line of flight high is an excellent idea for any public display of bees, and the cage described by W. B. Crump seems a very well constructed one (page 205). As the Editor says, it is a project worth duplicating by other organizations.

Good signs, well placed, are a very big help in selling honey to highway trade. They must be large enough to be easily read, and located far enough ahead to give fast-traveling cars a chance to slow down and stop if the driver wishes (page 206).

A good summary of research work throughout much of the country can be found in Dr. Shaw's account of his trip the past summer (page 208). There is a great deal of it at various places—breeding of better strains of bees, work on disease control, pollination problems, methods of wintering—all these are of real importance to the whole industry. That 100 percent resistance to AFB can be had through controlled mating is a big statement, but one we can welcome if and when it becomes a general fact.

The tremendous activity of honey bees helps to account for their value in pollination, as of course the fact that they can be placed where needed. Lack of bees is a serious threat to seed production—only recently I heard in a radio broadcast sponsored by a large seed concern that the nationwide shortage of sweet clover seed alone amounted to some seven million pounds, according to their estimate. It is not a promising situation (page 211). It is also of interest to note in the Bureau of Entomology Report that some of the AFB strains lacked vigor or were undesirable in other ways.

A real bee enthusiast can take a lot of discouragement and come back for more (page 214). And I believe there is nothing that quite equals a swarm to awaken such enthusiasm. Let us sincerely hope that the Cannons are "in" to stay this time. We need such beekeepers.

Doubled fruit production through the aid of bees is the report of S. M.A., (page 216), whose belief in "organic gardening" is shared by many — the theory that properly "fed" plants can resist disease and insects without the help of sprays and insecticide dusts. Which brings to mind that some believe sacbrood among honey bees is a deficiency disease.

April showers—May flowers, says this month's recipe page. Mrs. Nielson, we up here in Northern Minnesota will be satisfied with **May** showers, I believe. We still have two feet of snow, with drifts up to six and seven feet over some bee yards. But those honey foods are GOOD, regardless.

Selling your honey can bring its troubles if you ship to someone unknown to you. As the item on page 219 points out, oftentimes one could not even afford to sue an unscrupulous buyer—besides the fact that some point of law unrealized by you may leave **you** legally in the wrong and defendant in a suit yourself. Better to send shipper's order, FOB, or some other arrangement whereby you know you are protected (page 219).

The basic essentials of successful beekeeping do not change. Protection, comb space, food, says Editor Deyell, are essential elements, and of course he is right. Give a good colony with a vigorous queen these three needs and one need not worry about the outcome. But remember —the protection must be adequate, the food must be ample and comb space must be given in time to keep ahead of needs (page 222).

Sulfa can be a danger if used blindly in AFB control (page 235). We have had this warning from the start of its use, and the caution is still just as valid. It can be an aid —an important one—if used carefully and rightly, but the reverse can also be true. Mr. Nielsen's report is well worth a second glance.

Editorials

Crop Prospects So far as condition of bees is concerned there should be a good crop. However, condition of honey plants enters into the picture. In some regions drouth prevails while in other parts of the country there is an overabundance of rain.

In Northern Ohio clovers appear to be in good condition although recent cold spells in early April caused some heaving of plants.

On the whole, it may be said that prospects for a crop are quite favorable.

Beekeeping May Be Entering a New Era Some people say that civilization is entering a new era —perhaps the atomic era. Be that as it may, our beekeeping industry appears to be entering a new era which, so far as we know, has not yet been named.

Different eras of beekeeping have occurred in the past, as for example, the box-hive era prior to 1852, the box-honey era, 1852-1867, first extracted-honey era, 1867-1876, first comb-honey era, 1876-1906, and our present second extracted era beginning with 1906 and continuing up to the present time.

Because of the emphasis placed on the dependence of agriculture on honey bees for pollination of farm crops at present, is it possible that we are entering what might be called the pollination era?

At the recent National Meeting in Biloxi, Mississippi, many speakers of national note emphasized the importance of bees for pollination. In fact, grave concern was expressed because of a shortage of hives of bees in this country for adequate pollination. We must have more honey bees if agriculture is to prosper.

It seems probable that the commercial beekeeper who depends on bees for a livelihood may in the near future derive a considerable part of his revenue from rentals on colonies placed in fruit orchards and legume fields. The demand for bees to pollinate fruits, vegetables, and clovers has increased considerably during the past few years. Some years ago it was sometimes difficult to find suitable locations for apiaries. At present farmers and fruit growers are asking and in some cases imploring beekeepers to place hives of bees in or near their orchards and clover fields.

It would appear then that the beekeeping industry may be entering the pollination era, not discounting for a moment the importance of honey and wax production.

Abnormal Queen Supersedure Much has been written and said about the supersedure of queen bees during the years. Apparently there is much to be learned about it.

Obviously, there are two kinds of supersedure—natural and abnormal. Natural supersedure comes about when a queen is approaching the end of her usefulness in egg laying. Abnormal supersedure occurs before a queen has had time to complete her normal life span, owing to some physical defects which prevent her from performing her duties in normal fashion.

As to natural supersedure, we have wondered why, in some instances, an old queen, scarcely able to walk over the combs, is tolerated by the bees and is not superseded. This condition may result in a hopelessly queenless colony. Another queen may be superseded while she is apparently in good physical condition and is still laying normally. Apparently the bees detect physical defects the beekeeper cannot see.

Some beekeepers think that this so-called abnormal supersedure may be caused by faulty management or hive manipulation. It is thought by some that the supersedure of queens with packages installed early in the spring may be because of a lack of balance in bees of all ages that occurs in the hive for three weeks after the package is installed, or before young bees begin to emerge from the first cycle of brood. Some beekeepers are now adding a few pounds of bees to each package about ten days or two weeks after the package has been installed.

Some beemen are of the opinion that shipping queens in mailing cages or packages of bees may result in abnormal supersedure. As

a result of some work done in 1936 by the U.S.D.A. Bee Culture Field Stations, it was found that shipping queen bees in either mailing cages or in packages of bees did not appear to have any effect on the amount of supersedure. During that season 400 packages of bees were under observation for a study of supersedure. Approximately 8 percent were lost in shipment or by other manipulations, 9 percent by supersedure, and 3.3 percent were replaced by the beekeepers within two months after receipt.

It would appear then that if there is such a thing as abnormal supersedure, this possibly may be due to faulty methods of rearing queens, which would naturally result in poor quality stock.

The question is raised as to whether queens reared from the egg are superior to queens reared from grafted larvae of the right age. Some say that the closer we adhere to the natural method of producing queens the better queens we will have, while others apparently believe that we can improve on nature. In any event, the two important requirements, as we see them, for producing good quality queens are: First, that there be good stock to breed from, not overlooking the importance of having an abundance of desirable drones present for mating; and second, that the larvae have an abundance of good quality food during the five-day larval development of the queens.

It is hoped that in the near future this problem of queen supersedure which has bothered beekeepers during recent years may be solved.

How to Eat Comb Honey One of our readers thinks that something should be said about the proper way to serve and eat comb honey. Perhaps so.

During the last comb honey era, from 1876 to 1906, the majority of beekeepers concentrated on the production of section comb honey. Some extracted honey was produced, but the majority of people knew more about comb honey than they did about extracted honey.

Since 1906 we have been in what is called the second extracted honey era. Whether or not we will enter another comb honey era is doubtful. However, a number of beekeepers are planning to produce more section comb honey in the future. We have said and still say that more comb honey is needed because it helps to sell extracted honey.

Ordinarily, a section of comb honey is cut out of the wooden section onto a plate. Usually a knife is left on the plate beside the comb of honey in order that those desiring the comb honey may cut off as large a piece as is desired. It would seem that the dish containing the comb of honey should have a cover, especially when the honey is not on the table, to keep off dust.

Some people chew the comb, swallow the honey, then remove the comb from their mouths. Others swallow the comb and all. As a matter of fact, the comb is not indigestible as some people seem to think. It is said to be beneficial in that it serves as a sort of roughage in the diet.

As aforesaid, we need more section comb honey because many people upon seeing it will say, "Now, I know that this is pure honey."

Condition of Bees So far as we can learn, colonies of bees, especially in the eastern states, have wintered well where they have had enough stores. Bees that were not fed last fall, or left an abundance of honey for winter and early spring stores, may now be running short on food.

Generally speaking, colonies are in exceptionally good condition. The winter was comparatively mild and bees did not have to burn up too much energy during the winter months in attempting to keep warm.

In some parts of the West where the weather was quite cold, the winter losses were somewhat greater than in the East.

Should we have a cold spring, it will be necessary to watch the supply of stores bees have. When brood rearing starts, bees will use a large amount of honey for brood rearing.

As has been brought out recently, when a colony has less than 15 pounds of sealed stores, which amounts to approximately three filled standard combs of honey, the queen will begin to curtail her egg laying which in turn reduces the population of the hive and cuts down the amount of surplus honey secured.

From North, East, West and South

SOUTHERN CALIFORNIA, April 3

Southern Californians thoroughly enjoyed most of the days during March. There were a few cold nights when fruit and vegetable men were concerned. But generally speaking, the past month has been quite ideal with the exception of the lack of rain. Toward the end of the month from one-half to two inches fell in the various districts.

Market: The honey market is steady but sales are light as most of the beekeepers who have held their honey until this time are still not ready to sell. They are waiting for the stabilization of the market.

Condition of Plants: Most of the honey plants are in good condition. The last rain helped to bring on the black and white sages. Deciduous trees are about past their blooming season. Mustard and other small plants are furnishing plenty of pollen. The warmer days of the past week or so are bringing out the orange blossoms and the bees will soon be busy on them.

Miscellaneous: The bees seem to be in very good condition everywhere and most of the beekeepers are on their toes and ready for the spring flow. Some complaint is being heard because of the great number of colonies being moved to the oranges, and it isn't quite fair to the local apiarists.

Pollination is the most talked-of subject among beekeepers and is a topic of vital interest—especially to the alfalfa seed growers. Some growers are drawing up contracts with the beekeepers for from five to ten years. They apparently want to feel secure about having bees for their alfalfa fields. There is a report going the rounds that there won't be enough bees to supply the demand for the pollination of crops.

Many beekeepers are buying more colonies and others are planning on making increase from what they have. Also a few are going into the business again after selling out the past few years. Altogether it looks as if the industry in Southern California is really taking on new life. With the expected increase in the price of honey and the added income from the pollination projects, is it any wonder that the hard working beekeepers feel encouraged? The outlook the past few years in these parts of the country hasn't been too good. This condition has existed because of the light rainfall.—L. L. Andrews, Corona, California.

NORTHERN CALIFORNIA, April 1

Weather: The weather isn't fooling today. It is ideal for both bees and man. Bright sunshine and warm days in early April are most welcome to all producers of queens and package bees. A few days of refreshing rains occurred during the past month and reduced the gap between the normal average amount of precipitation and that which we have had so far, but we are still some short of the average. The rains came after many had started to irrigate their orchards and fields and occurred in time to assure a good stand of alfalfa on hundreds of acres in many northern counties. The snowpack was increased in the mountains and a gradual runoff this spring will fill the reservoirs with much-needed water for irrigation purposes. Some weeks of cold weather set back queen rearing operations to some extent but most queen breeders keep their cell builders producing so as to have an ample number of cells when the weather is favorable.

Condition of Colonies: The strength of the colonies is up to normal with some having made preparations to swarm around the last week in March. The cold winter caused most of the fruit trees to come into blossom over a short period, condensing the amount of pollen available into a few short weeks. Colonies strong enough to take advantage of this surplus, stored large amounts of pollen on favorable days.

Unfortunately, many colonies did not replenish their supplies of honey and some are running short at this time. Filerae, fiddleneck, and mustard and soon other plants will add to the possible surplus to tide them over until the major honey flow begins from field, hay, and seed crops.

Honey Market: There hasn't been much change in the price situation during the past few weeks. Honey is selling for less than it should now and an increase, if anything, is indicated for the near future. It may take two or three months for the results of the price support of honey to influence the retail prices and it may only prevent the lowering of prices from the present level. Many are wondering just why the announcement of the methods for implementing the support program has been delayed so long.

Now if I were a radio commentator I would say FLASH, for I have just received the preliminary announcement of the "U. S. Dept. of Agriculture to Assist in Expanding Honey Outlets". It will be included in this issue (see page 284), so I will not give its content here. The most important part seems to be that "payments of not more than 4.5 cents per pound will be made to packers who sell honey into **diversion outlets** at the market price **less the amount of payment**". Payments will also be made to exporters of honey, at the same rate or 50 percent of the "f. a. s." or home market, whichever is lower. Total export and diversion sales to be approved for payments up to July 1, 1950, are limited to 7 million pounds. The diversion outlets must be "new outlets". Details of the program, including application forms, are expected to be ready by mid-April. Without knowing any more than the above about the program, one guess is as good as another as to how this program will affect the producer. On the surface it looks as if no distinction will be made in the quality of honey and that a base price of 9 cents per pound is intended to be paid the producers for honey that qualifies for the "diversion or export" sales. Also, it looks as if the packers have the task of finding diversion outlets for some 7 million pounds of honey or export outlets within the next two months in order to qualify for this program, and that they will receive 4.5 cents per pound above a base price. The diversion outlet must be approved by the Department and honey must be employed in the outlet before payment can be claimed. Now, I hope all this is clearer to the reader than it is to the writer, but the detailed program, still forthcoming, may indicate its meaning. This preliminary announcement states: "The program is expected to be of value in disposing of the annual honey surplus and in stabilizing returns to beekeepers." Let's hope that it accomplishes this purpose. For one thing, it looks as if those responsible for support programs do not want to assume the responsibility of disposing of several million pounds of honey on top of the other produce they have on hand.

As long as we set up artificial prices at home, whether it is for potatoes, wheat, corn, honey, or manufactured goods, we will be faced with an increase in the imports of these commodities from the less-favored countries unless producers are protected by quotas or tariffs. Such protection does not seem logical in the face of the fact that we are a surplus-producing nation in all but certain essential commodities. Our produce will have to sell at home on its superior merits in order to command a higher price in keeping with our higher standard of living or certain essential commodities will have to be supported by our general economy. We will not create good will abroad by dumping our produce at less than cost in foreign countries unless this sales price is above that received for their own materials or produce at home.

Miscellaneous: The use of bees to increase the yield of clover seed is the most talked-of topic in these parts of the state. Many seed growers are wanting from two to four colonies of bees per acre and too many feel that they should get them for nothing because they gave locations to beekeepers in past years. Beekeepers are generally aware that honey production is based on a distribution of seldom more than one colony of bees per acre and that when the concentration of bees is above this number, that average production falls off to a point where, with four or five colonies per acre, the bees may not even be self-supporting. The situation simmers

down to the consideration that the seed grower cannot afford to be without an adequate number of bees for an economic yield of seed and the beekeeper cannot afford to bring his colonies into a seed area in the desired number without receiving a written guarantee of an equivalent return equal to that which he could receive from honey in a location favorable to honey production. It may take some time for the seed growers and beekeepers to get together on this basis.—J. E. Eckert, University of California at Davis.

KANSAS, April 8, 1950

Weather: Rainfall distribution has been uneven and deficient for a nine-month period, a second successive year. This lack of moisture for the soil and plants, extending from July through March, is a bad situation in reference to the future honey flow. The eastern one-third of the state has had its usual amount and distribution of rainfall. The winter was a mild one with few below-zero records.

Condition of Colonies: Colonies properly prepared for winter last fall are in excellent condition this spring. Weak colonies now need much feeding. So far this season, there has been little food available due to cool weather.

Plant Conditions: The dry soil conditions have not been conducive to nectar secretion in the early blooming plants. The soft maples and elms have furnished a limited supply of pollen. Early blooming shrubs and fruit, with favorable moisture and temperature, should provide food for the bees within the next few weeks. A few dandelions have bloomed during the past few days and have short stems. The season as a whole is about two weeks behind normal due to the cool weather and the low rainfall the past nine months.

Miscellaneous: Price support for honey, at the most, is only a temporary solution to the distress in the market. The beekeepers have to pull themselves out of this bad situation. One of the ways to solve the problem is more extensive and better advertising. The corrective work needs to be started with the sale of the next honey crop. All beekeepers producing honey for sale should in some way support a nation-wide and well organized program for advertising this unique product of Nature. So far, the advertising program has been that of a few honey marketing concerns and that done by the American Honey Institute. Perhaps such advertising can be enlarged and made of a progressive nature. Beekeepers have to help themselves. The system of letting the other fellow do it is a failure. What are the beekeepers in any one state going to do about honey selling and advertising? Even on a larger scale, what are they going to do in any one region about the sale of table grade honey from the white clover, alfalfa, or white sweet clover regions?

The Plains States region is a large alfalfa seed production region. The increase in the seed of the improved variety, Buffalo, at the present time is a concern of many farmers. A factor in the increased seed production is the reduction of the injurious insects in the fields previous to the blooming of the alfalfa. More uninjured flower heads are present in the field when the tarnished plant bug, leafhoppers, cutworms, grasshoppers, and other insects are controlled. When the injurious insects are controlled and colonies of honey bees are present, the seed increase ranges from 200 to 300 percent. The problem is to supply a sufficient number of colonies in any one area for alfalfa pollination. Many of these farmers producing alfalfa seed have in the past had little or no interest in honey bees or beekeepers. In the near future beekeepers will be approached to supply colonies at a certain number per acre. The beekeepers should keep in mind that with the increase in the number of colonies per acre for pollination so does the colony honey production decrease. Some of these alfalfa seed producing farmers will try and succeed in beekeeping as a farm project, whereas others will find that beekeeping is too troublesome and costly for one or two months' service in the pollination of alfalfa. This latter type of farmer will rent colonies or share a part of the seed crop for pollination service.—R. L. Parker, Manhattan, Kansas.

TEXAS, April 5

Weather: The past winter was the mildest experienced in Texas in many years. The first of March, however, brought the usual amount of low temperature which changed to unseasonably warm weather during the remainder of the month accompanied by dry winds and blowing dust. Dry weather which prevailed over much of Texas since the beginning of the year has now extended to remaining areas and drouth is becoming more acute.

Bees and Plants: Bees are generally in good condition. In most localities bees have gathered plenty of pollen and some nectar which with adequate winter stores and a mild winter brought colonies to the peak of strength earlier than usual and considerable swarming is reported. Over most of East Texas bees have started gathering from youpon of which the blooms appear promising. In the Lower Rio Grande Valley the citrus bloom was drawn out and the flow from this source was disappointing. Likewise in Southwest Texas guajillo bloomed erratically over a long period without yielding any surplus. Mesquite and catsclaw appear to be normal and are expected to bloom in April. Throughout the eastern half of the state fall-seeded vetch and sweet clover are in good condition and many colonies are being moved to that area. Winter-seeded Hubam clover suffered from dry weather particularly in central and northwestern areas. Horsemint appears to be plentiful over most of its range.

Market: Honey continues to move rather slowly on the retail market. While prices generally have remained unchanged, in a few markets a 5-pound pack is offered for as low as 70 cents.

Miscellaneous: Growers of legumes are becoming sold on the need of bees for pollination for increased seed production. All principal growing areas are requesting beekeepers to move apiaries to the fields. Many colonies have been moved to Kaufman County where 35,000 acres are grown to vetch. There is an additional acreage of 30,000 acres of Hubam clover. While less than one-third of the colonies requested have been located there, beekeepers can expect a succession of three major sources—vetch, Hubam clover, and cotton. In Eastland and Erath Counties field observations on vetch over a period of three years have shown an average yield of 194 pounds of seed per acre where no bees were located within several miles; 274 pounds of seed per acre where less than one colony of bees per acre was located within one mile; and 361 pounds of seed per acre where 1⅓ to 5 colonies of bees per acre were located. Shipments of package bees and queens are now under way. Queens are in good demand but bee shipments are below those of recent years.—A. H. Alex, College Station, Texas.

WISCONSIN, April 10

"What can we write the first week in April that will be of interest the first week of May?" The season changes so rapidly that by now we have almost forgotten about wintering and what happened in early spring.

Winter Losses: Here in Southern Wisconsin we had what could be called a very good winter for bees—temperature in January and February about four degrees above normal, but colder in March. There were flight days during each month. Yet, in spite of this, beekeepers reported the usual winter losses ranging from 5 to 40 percent. Such losses of normal colonies is of course a tragedy. If every beekeeper would inspect colonies for stores **in February**, there would need be no losses in outdoor wintering, if honey or syrup is provided next to the two or three frames of brood normal during that month. Many beekeepers here are now following this practice. We inspected 100 colonies in about eight hours in early February and saved at least ten from starving by April 1st. At $3.00 per colony, that work was worth over $3.00 per hour.

Colonies varied in the amount of pollen they had in mid-March. A

XUM

few had stored considerable last fall and did not use the soybean flour supplement readily. Most of them had little or no pollen and ate the cakes hungrily. We feed cakes made by mixing the flour in sugar syrup and placing them right on the brood combs. The colonies are fed as much as they can eat and that is considerable. We see no need of feeding supplement outdoors because it's when the bees can't fly and gather pollen that they need extra food.

We Read Some Odd Statements in the semi-monthly honey report by the U.S.D.A. For instance, from one state with less severe weather than Wisconsin, this statement: "The sub-zero weather, which occurred recently, killed a few colonies of bees that lacked winter hardiness". If they were normal colonies they certainly died because the food supply was unavailable to the cluster during that cold winter, or in short, starvation. Here's another quotation: "Early winter brood rearing, followed by a cold late winter, may be detrimental, especially if the cold continues through March". Certainly the fact that young bees are emerging to replace those that die normally is not detrimental. The fact is that with brood rearing the stores are depleted around the winter cluster and bees starve unless the beekeeper is on the job.

The Honey Crop and Prices. We know there is no profit in honey at 9 cents per pound wholesale, and so beekeepers are hoping government price support will solve that problem. Is it the only way it can be solved? However, the production of honey per colony is just as important, or perhaps more so, than the price. In 1949 some beekeepers reported a good profit because they produced a large crop—200 to 300 pounds per colony in a small section of the state favored by the weather. In other sections the average was between 30 and 50 pounds per colony. In the Madison area we had only nine days of honey flow and they were good, but it came in mid-June and only strong colonies produced a surplus. That's why we have to make every effort to get large field populations in Wisconsin by early June. If we miss out during June when the honey from white and alsike clover is produced, we are likely to miss out entirely.

More Sweet Clover Needed: The Southern district of the Wisconsin Beekeepers' Association voted unanimously in favor of a resolution asking the Department of Agronomy of the University of Wisconsin to include sweet clover in recommended seed mixtures for pastures in grassland farming. The resolution stated that sweet clover is an ideal pasture plant during dry midsummer weather, and of course it's a wonderful honey-producing plant at that time too. Farmers are afraid of sweet clover, however, because they say it comes up in the grain in succeeding years.

A resolution was also passed thanking the State Highway Department for its efforts to prevent road maintenance men from mowing sweet clover along the county roads before it has finished blooming.

Ladino clover has not yet proved itself to be a good nectar-producing plant in this area. One beekeeper reported placing about 40 colonies in 40 acres of Ladino clover while it was in bloom in 1948. The bees almost starved before he took them out. That was a dry season. Reports for 1949 were more favorable because of more moisture, but we still have no real evidence that Ladino produces nectar abundantly.—H. J. Rahmlow, Madison, Wisconsin.

COLORADO, April 6

Weather: The winter just past has been one of the mildest, and almost an opposite to the one preceding it. Bees were never more than 30 days without flight and only a few night temperatures went below zero. One thing is somewhat disturbing, however, and that is unless we get a lot of good rains this spring, which is unlikely, we are going to have a dry season.

Bees: As the report on weather would indicate, bees are in excellent condition. Pollen began coming in about March 20 and has been increasing in volume ever since. Brood rearing has stepped up considerably since that date and will continue to do so as long as the weather permits gathering of pollen and a good backlog of honey is present. It is

not hard to distinguish colonies that were requeened last September from those that have old queens that already have a year or two of service to their credit. It is difficult for us to find the time to do fall requeening owing to the press of other work at that time, but there is no question that it pays. By the time one gets around to spring requeening, colonies that have old or failing queens have already fallen so far behind that they almost never make a top quality colony. Time is as necessary as any of the other requirements to building up a strong colony of bees.

Market: Like the government price support program — no comment.

Other Comment: While seeking relaxation and inspiration this past winter I read Manley's book "Beekeeping in Britain". While I found nothing in it that was startlingly new it was interesting and sometimes amusing reading. Always worthwhile to have an opportunity to make comparisons, and it showed to me more than anything else that beekeepers the world over make the same mistakes. We upset Nature's plan with the bees by robbing them of a large part of their summer's gains that we may live, and then so often fail to replace or give the bees an opportunity to replace these stores and get organized for winter. One cannot always judge how long a honey flow will last. When it closes before the colony has had a chance to store sufficient honey for winter it must be fed. Preparation for winter seems to be about the first step in producing a good crop the following season. In Britain it seems that they do a great deal of fall feeding. Honey is worth more comparatively there than here, and one can afford to feed sugar to replace honey, especially since much of the honey seems to be of poor quality for wintering bees anyhow. In this country if one must feed in the fall, honey—one's dark honey if he has any—is very acceptable feed. I would say that it is equal to sugar syrup, perhaps better, for it is a natural food.

It might be well to give some of our experiences on honey feeding. We began by feeding back our capping melter honey to colonies that were not quite up to standard in weight. It is our purpose now to have 75 pounds of honey in the hive at the close of the season. Sixty pounds is usually all that a colony will require, but that extra 15 pounds is like money in the bank. This melter honey is recovered from cappings that have been dried in a spinner. Whether pressed or spun it seems that about half the weight of dried cappings is honey. In our case that amounts to 30 to 50 60-pound cans of honey depending on the size of the crop, and is well worth salvaging. The bees don't seem to mind it at all when mixed four parts honey to one of water and a half-gram of sodium-sulfathiazole added for each gallon of the mixture. We were once reluctant to feed honey because we thought it would excite the bees to robbing more than sugar syrup does, but now that we are beginning our third year of it, having been forced to it by financial circumstances, it seems quite the regular thing with no ill effects. If we all fed honey instead of sugar—at least our off-grade honey — to our own bees, think of the poor quality honey that would be kept off the market.

Manley also comments on the trait of British beekeepers to maintain fancy hives, really works of architectural art, but of little practical value to a honey producer. As an inspector I once observed that beekeepers who were particular about the looks of their hives were also neat beekeepers. This is most often the case with small producers, hobbyists, and backlotters, but as my experience has broadened I find that it fails to hold true for the commercial producer. Well-kept hives are always good property and paint surely does no harm, but there are so many things of more importance. If one maintains good queens throughout; provides ample stores; supplies a pollen supplement inside each hive during March and early April; gives upward ventilation and wind protection; and does these and other top priority things religiously he is apt to find himself without time to do much painting. And yet he may be a first rate beekeeper. Mr. Manley can rest assured that most of his observations hold true in this country as well as in his own. Human nature and beekeepers seem to be about the same the world over.—John W. Holzberlein, Jr., Grand Valley, Colorado.

XUM

OHIO, April 7

Weather: Ohio has had quite a variance in weather over the state during the past few months. Cold weather with icy roads prevailed in northern, eastern, and western sections, while the central and southern sections were mild a greater portion of the time. Precipitation for the past five months has been 153 percent of normal rainfall or 53 percent greater than normal years. January and February weather was so unusual for this territory that mention should be made of it. Only 16 out of 59 days were without rain, and temperatures ran as high as 73 degrees. March was quite different and it came in like a lion and went out like a lamb.

Clover Condition: Here in Ohio we have had considerable "heaving" of clovers and this will materially injure and retard its early growth and blooming. White sweet clover, our best nectar-producing legume is still on the wane. We are hopeful that Ladino clover will be a good nectar-producing legume. Most of the farmers in my territory are trying it out on a small scale. Personally, I do not know its source but it just looks like a glorified little Dutch clover and it may be that it will not be a dependable annual nectar-producing plant. Only years will prove whether my prediction is right or wrong.

Colony Condition: At this time I believe that 75 to 80 percent of the bees in each colony are young bees, and brood rearing is much in advance of the season. Except for careless beekeepers, the winter loss should not exceed 5 percent in most sections of the state. This loss will consist almost entirely of drone layers and queenless colonies.

Forecasting the Future: We as beekeepers have a State Association and many county associations and in these organizations are some of the finest people I have ever known. We, as an Association, have not been able to get either State or National legislation that will give the beekeepers what they are actually entitled to for what they are now doing, and have done in the past, for agriculture. Yes, you guessed it rightly—it is 82 percent or more of all pollination done in Ohio. At the present time we have to pay the farmer for a location for our bees in order that he and his neighbors may be able to materially increase their crop yield. The farmer gets ample pollination and gets paid for it. However, we must not feel unkindly toward the farmer because the beekeepers over the years have educated the farmer to this lopsided, unbusinesslike arrangement. The beekeeper in turn gets a good stinging both literally and figuratively speaking, and in addition he gets a little beeswax and a little honey — and "a little" defines it for the past number of years. The price of honey is extremely low in comparison to labor, material, transportation, and all other costs that are involved in beekeeping. With an income from honey and beeswax alone the beekeeper is headed for a very slim living or, perhaps, insolvency. Pollination must enter into the picture as the major portion of his income or the commercial beekeeper is on his way out. Within the last three years colony population here in Ohio is down 20 percent and that means one-fifth less pollination to the farming community. Many beekeepers are hopeful that the price of honey will advance and I fear this is wishful thinking. Those of you who have had long years of experience in the business will realize that whenever honey advances in price too far above the price level of sugar and other sweets it will begin to gather dust on the grocer's shelf. It just won't sell.

Beekeepers should, and I believe most of them do, take an interest and a responsibility in the welfare of their community. They know and realize that rural communities develop and prosper or wither and die as soil productivity goes up or down. Therefore, you should be a firm believer, a member, and a worker in conservation. As it is set up in Ohio now it will do many good things for the beekeeper in the future. You will meet a very fine class of people and they will cooperate with you on many projects of advantage to you, your family, and your bees.

On the evening of February 27 Dr. K. Starr Chester, an expert in

agricultural research, gave an interesting talk to the Columbus chapter, Friends of the Land, of which I am proud to be a member. He informed us how much our farm land was lacking in various minerals. Who knows but that it may be a mineral deficiency in our soil that prevents the proper flow of nectar? Batelle Institute is located here in Columbus and is the largest research organization in the world. A great deal of agricultural research is being done there as a year-around project. They may discover something that will be a blessing to beekeepers. We need that blessing.

On March 22 at our Ohio State Beekeepers' Association Educational Meeting John W. Sims, Executive Secretary of the Ohio Farm Bureau Federation, gave an interesting talk. This was followed by Douglas R. Stanfield of the Legislative Branch of the same organization. On behalf of their organization both gentlemen offered the services of their organization at any and all times to the beekeepers of Ohio. To my way of reasoning here is our golden opportunity to associate ourselves with the strongest and best farm organization in existence.

More than 63,000 Ohio farm families belong to the Ohio Farm Bureau Federation. We Ohio beekeepers should well recognize that there is more to the beekeeping business than mere production. We must also recognize that we must join hands with our farmer friends for action on both State and National legislation in education and public relations. We, as individual beekeepers or as a group, are unable to defend ourselves against the advantages gained by other economic groups through political organizations. We must also realize that we are a very small minority group and should correlate our activities with the Farm Bureau Federation, an organization of strength and ability. We should have the advantage of their legislative body. And, incidentally, they are handling a very delicate matter for us right now.

Pest control is another thing that beekeepers will need a great deal of help with. We can also get this aid through them. The Farm Bureau Federation has two very fine monthly publications, the Farm and Home News and the Ohio Farm Bureau News. Each of these publications has a monthly circulation of approximately 70,000. Draw on your own imagination just what could happen in a short time if we beekeepers could have a good pollination story in these magazines each month. Farmers would soon begin to contact the beekeepers for pollination advice and help. If we could honestly and diplomatically get our pollination project to the farmers of Ohio each month it would bring results that would be profitable to farmers and beekeepers in a mutual and cooperative way.

John Sims and Doug Stanfield have extended the invitation to all beekeepers in Ohio. Shall we accept their offer or shall we still remain on the bottom round of the agricultural ladder and keep trying to pull ourselves out of the mire by our own boot straps as we have been doing for so many years?

I have belonged to the Farm Bureau Federation for a long time and I know several other beekeepers who belong. Call on your County Farm Bureau and talk it over.

In closing may I leave this thought with you—"The only way to multiply happiness is to divide it."—W. A. Coulter, Columbus, O.

MASSACHUSETTS, March 27

Weather: The early part of winter was ideal for the bees, but the real cold came during February and March. Snow covered the ground sufficiently to keep the frost from penetrating to any depth. Clovers should not be damaged to any extent.

Condition of Bees: The bees that were well supplied with stores in the fall are in excellent condition. Colonies light in stores due to the failure of fall flowers to yield nectar suffered not only from lack of stores but from small clusters because autumn brood rearing was far below normal. This was especially true in yards where the drouth was most severe. Small colonies cannot maintain sufficient hive temperatures to raise winter brood and therefore are too small in numbers to build up rapidly during March and April. During severe cold weather these

small colonies are unable to move the cluster and may starve inches away from full combs of honey.

Strong colonies, however, cover more comb space with bees and usually start brood rearing in late January and early February. This early brood helps to maintain colony population, and when heavy brood rearing takes place in March and April these early-raised young bees really stimulate the queens to expand the brood nest. Some beekeepers do not want big colonies in April because they build up too strong several weeks ahead of the honey flow. Real strong colonies will store a surplus from red maple and fruit bloom, and may be divided to make two good colonies for the clover flow.

Miscellaneous: Natural pollen was seen coming in today for the first time this spring. This is about a week later than last year. However, we have been feeding substitutes since the first of February. During the cold weather strong colonies continued to utilize the substitutes and have considerable brood at this time. Medium and small colonies consumed smaller quantities of the substitute during the extreme cold weather but appear to benefit by such feeding. Colonies that formed the cluster in the lower portion of the hive because of a full super of stores did not find it possible to go up to the substitute during the cold weather. These colonies do not appear to have as much brood and are just beginning to use the substitute.

The fruit-bloom period will perhaps be a few days later than normal this year because of the cold weather, but if April should be above normal in temperatures the bloom may come the first week or ten days in May. Warm April showers can force the fruit buds to expand rapidly.

We plan to use a few two-queen colony units for orchard rental this spring. My son, W. W. Newell, tried them out last spring in New Hampshire orchards while doing work on his M. S. degree. Such colonies containing 20 or more pounds of bees each did excellent pollination. Considerable care is necessary in handling such large units, and only beekeepers could transport and work with them. We plan to compare these with our regular rental units.—R. E. Newell, Medway, Mass.

VERMONT, March 24

Bees and Plants: Here in Vermont, at least as far as the bees are concerned, a cold winter is preferred to a warm one, such as we have just had. It is a paradox that bees use less honey then, as a warm winter makes bees too active. The fact that bees often go without a flight for five months in a normal winter is not at all detrimental. It will be interesting to see the difference this spring in bees packed in shavings and those just wrapped with tar paper. I believe in heavy packing myself. I know many beekeepers say it makes an ice box for bees so that the hive doesn't warm up in sunny weather, but that is just the reason why I like three inches of packing material around a hive. I don't want the bees to get warmed up. When spring comes so late as it does here, bees are better off under refrigeration until the middle of April to keep them quiet. Activity too early in the season is apt to result in starvation, or building up too soon before the main honey flow.

Market: It doesn't do much good to add ice to cold water regarding the honey market. It is slow. In this area most of the honey will go before the new crop, but the need of increased consumption of honey is apparent to anyone who has the problem of selling it.

Most of us should take more seriously the advice of R. B. Willson, Chairman of Honey Utilization Committee, for beekeepers to be more enthusiastic over honey and that bee journals carry more articles on its marvelous qualities. One problem of course has been the authoritative articles on honey available for publication. We are fortunate in having Dr. Jarvis here in Vermont, who has great faith and experience with honey as an aid to health. He has written some articles on this subject which we hope will do something along this line. There are doctors in other parts of the country who could also tell about the wonders of honey in the diet and it is up to us beekeepers to get these findings into print. The only way we can increase honey

production is to prove to the public that honey is good for them. It is unfortunate at this time, it seems to me, that filtered honey is now being so widely packed. While it makes it easier from the packer's viewpoint, there can be no question that filtering removes from honey trace elements that play an important part in its healthful properties. We have a long way to go yet before we know our honey, and it is high time we did something about it. Otherwise, like the Indians, we may find ourselves wards of the Government through price controls or price supports. — Charles Mraz, Middlebury, Vermont.

ONTARIO, April 10

Weather: This is Easter Monday, and by the calendar, at least, spring should be here. However, yesterday it was difficult to determine if it were Easter Sunday or Christmas. The ground was frozen solid and a dazzling coating of snow covered the landscape. For several nights we have had severe frosts, but it will not be known for some time how much actual damage has been done to nectar flora Some heaving of clovers has been reported from earlier frosts while the ground was bare and water saturated.

I have no general report for the province on condition of bees, but here in East Central Ontario winter losses seem to be somewhat above average. Numbers actually dead do not appear to be greater than in the average season, but a large percentage are weak, and dysentery has been prevalent. This condition is probably due to the greater use of natural stores for wintering. Sugar prices have increased and there was a good honey flow in the late summer of 1949. Much of this was in the golden class, not too popular with the consumer, so it was used for winter stores. Because of a large content of goldenrod it granulated in the combs. If the weather is warm enough the bees can bring in water to liquefy it.

Quite a number of beekeepers have varying quantities of unsold honey in their honey houses, some of which they would like to use for spring feeding but do not like the job of liquefying it. It is not necessary to go to that trouble. I have fed granulated honey by removing the lid and inverting the can on the top bars of the brood chamber, and placing a feeder pail full of water beside it. The bees will coat the surface of the granulated honey with water, lick it off, store it in the brood nest, and ripen it. In a few days the can will be empty and polished better than you can do it with soap and water.

Honey sales continue draggy, according to retailers whom I have been speaking to. One retail concern I sell to makes a feature of honey in their newspaper advertising a couple of times a month which results in a temporary increase in sales, but it seems that constant pressure is required to keep it moving. A large percentage of the consuming public still thinks honey is a luxury and will continue to do so until we show them that calorie for calorie it is equal to or superior to other foods usually classed with it.

Miscellaneous: The April issue of Gleanings contained an article by E. C. Martin, Provincial Apiarist of Manitoba, with which I am very much in agreement. With Provincial, State, and National organizations in existence we have gotten into the "Let-George-do-it" frame of mind. While these organizations can coordinate marketing programs, the individual beekeeper is kingpin in his own locality, where he can make his influence count. If he will produce the best possible in quality, push it consistently, and stand behind his product, he should be able to build a local market that will take a goodly percentage of his crop. This will leave the large city markets to the co-ops, packers, and processors who are trying to do an efficient, orderly job of marketing. The curse of the markets in the large centers is a multiplicity of small lots of honey from a multiplicity of small producers, which clutter up store shelves. Much of it is ungraded, priced differently, of indifferent quality, and leaves the consumer buyer bewildered and undecided. This is an age of standardization and the business that can't or won't conform is operating at a decided disadvantage. — Allan T. Brown, Peterborough, Ontario.

Sales Tales

"To Sell We Must Tell"
By Tom Paisley

May's warm sunshiny weather will again bring thousands of tourists motoring to the country for a weekend drive. Beekeepers should not miss this excellent opportunity to clean up the end of last year's crop.

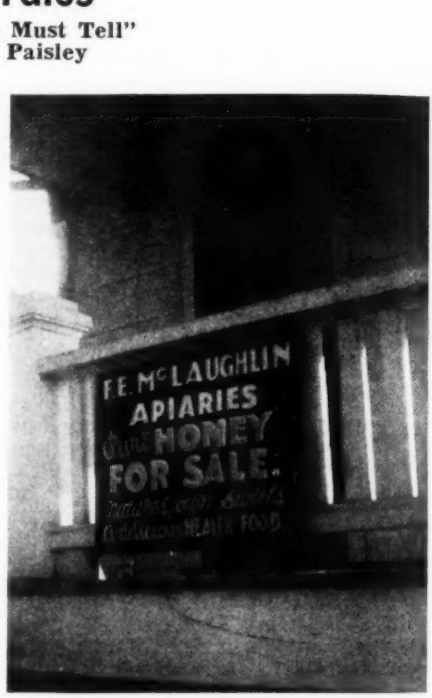
We should not let the actual spring work with the bees make us forget what an excellent season of the year spring is for renewing interest in the bees and their wonderful products: extracted and comb honey. The buying public must be constantly reminded of what there is to purchase and if their interest is aroused they are willing buyers.

If it is possible to place a hive of bees near the road where motorists can stop to watch the activity of the hive, it is well to do so. Care should be taken that the entrance of the hive is set in a direction away from the road. Bees taking off through the path of fast moving traffic will quickly be killed. There is also the possibility that bees may fly into open windows of cars causing great excitement among the occupants of the car. Interest created now in the bees may produce future honey sales and that is exactly what every one of us hopes for.

Comb Honey

In the planning of the year's honey production, it is wise to consider comb honey. Again this year as last, there should be a considerable market and demand for comb honey. Buyers feel that this is an old farm delicacy and will be very willing to pay several times the market price for a good section of comb honey. The fact that it is very difficult to ship this very breakable product any great distance makes this a natural for the local beekeeper. Advantage should be taken of this opportunity.

In our market we have found several stores who buy honey featuring comb honey and they have moved substantial quantities over a year's time. To prove how substantial the demand can be, we are still receiving orders for comb honey even though the supply has been exhausted for some time. Any beekeeper who is in a region where good quality comb honey can be produced and who has the time and interest to follow the manipulation necessary to produce comb honey should certainly consider this as one method of eliminating the sales problem in the fall.



A honey sign on a dwelling house in a city which has resulted in many honey sales.

Personal Promotion

"Do not hide your light under a bushel basket" could be a good thought for beekeepers to remember. In order to move honey from your stand, home, office, or from wherever you try to sell your crop, it is impossible to sell it unless you let people know what you are selling and how good it really is. On a card which I received some time ago a beekeeper pointed out how he had moved a large portion of his crop. He made a large sign for his car stating that he had a particular type of honey for sale. People living in his area grew to know him as the beeman and were very happy to purchase honey which they knew was produced locally.

Along this same line of thought, signs are always extremely helpful

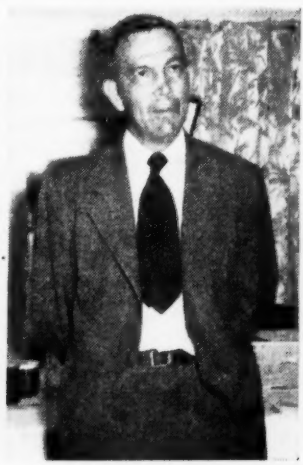
to point out the presence of a local beekeeper. It is difficult to compute the value of such an item as an attractive sign, however, it is one of the most effective ways known to let your neighbors and potential nearby customers know that you are an apiculturist and producer of honey. When you want to buy a new suit you do not go to the hardware store—you go to the tailor. By the same token, when folks want honey they go to someone they are certain is an established beekeeper.

Now that we are approaching our busy season of the year, contemplate the advantages of the honey you produce whether it be extracted honey or comb honey. What is the demand for it in your area? When you can well say it is thus and so, go ahead and try to satisfy that demand. Then you will sell.

Advertise your product by a means that will make people stop and want to buy. One fault of many who have roadside stands—they do not proclaim their products except right at their stands and by the time a passing motorist has seen what he might have been looking for he is past and cannot turn back because of traffic or the narrow width of the highway. Shout about your product 500 feet ahead of your stand and then have a parking area where cars can pull off the road. When they do have a safe place to park, the whole family will get out and stretch their legs, and then is the time when you can do your promoting of the honey business. Take advantage because advantage always pays off.

Palmetto State Beeekeepers' Meeting

Dr. M. D. Farrar



W. H. Purser, State Inspector

Prof. David Donovan

The annual spring meeting of the Palmetto State Beekeepers' Association was held at the Jefferson Hotel in Columbia, South Carolina, on March 15. An excellent program was lined up by E. S. Prevost, Clemson Extenson Bee Specialist, in cooperation with the Association's officers. Attendance was good, approaching around 80 registrations for the day. The program went off smoothly.

Many subjects pertaining to beekeeping were ably covered. The beekeepers attending the meeting seemed to be in good spirits regarding the future of beekeeping, both in South Carolina and the Nation as a whole.

The Palmetto State Beekeepers' Association is to be commended for its untiring efforts to promote better beekeeping methods and the wider use of standard beekeeping equipment.

It was generally felt that those who attended this meeting were well rewarded with some important tips and information on beekeeping, and hope was expressed that attendance at meetings in the near future would continue to be good and that membership would increase.—William B. Brown.

XUM

Just News

The Cuyahoga County (Ohio) Beekeepers' Association will hold its May meeting at the plant of The A. I. Root Company at Medina, Ohio, on Sunday afternoon, May 28. Harriett M. Grace of the American Honey Institute at Madison, Wisconsin, will be the guest speaker. Helen Robertson of the Cleveland Plain Dealer will also be present. Motion pictures will be taken. Refreshments will be served by The A. I. Root Company.

* * * * *

The Westchester County Beekeepers' Association will hold its regular monthly meeting at 2:30 p.m. May 21, at the Odd Fellows Hall, 20 Lockwood Avenue, New Rochelle, New York. Following the meeting, instructive movies will be shown, and bee problems will be discussed. Refreshments will be served, and visitors are always welcome.—B. F. Miller, Publicity.

* * * * *

The Annual Short Course for Beekeepers will be held at Ames, Iowa, on May 9 and 10. The sessions will be held in Room 206 of the Memorial Union Building. Guest speakers include Dr. E. J. Dyce, Roy Grout, Frank Pellett, and Glenn Jones. The local staff will complete an unusually strong program for beekeepers. Everyone is cordially invited to participate in this program.—F. B. Paddock, Extension Apiarist.

* * * * *

The Campbell County (Virginia) beekeepers will meet in the County Building in Rustburg on May 16 at 1:30 p.m. to organize an association. Everyone is invited and door prizes will be given.

* * * * *

The Washington County (Oregon) Beekeepers' Association, a branch of the Oregon State Beekeepers' Association, will hold its fourth annual picnic at the home of the President, Joe Moharich, city limits, north of Forest Grove, Wilimina Avenue, Highway 47, on Sunday, May 28. This will be an all-day meeting with pot luck dinner, coffee, and refreshments furnished. Plenty of shade. There will be a 4-H Club demonstration and auction of bee supplies. What have you? Bring your donation. Prominent speakers are scheduled for the meeting.—J. Oren Kane, Sec.-Treas.

* * * * *

Counting Noses

The 1950 Census of the Farm Population includes questions on bees. Question No. 303 asks "How many hives of bees did you own last year?"; No. 304 "How many pounds of honey were produced last year by your bees?"; No. 305 "What was the value of your last year's honey and wax sold, or to be sold, and bees sold?" These questions, unfortunately, go only to rural homes but they should give valuable figures on honey production and bee population.

* * * * *

"Pollination — an Agricultural Practice", a 24-page booklet written and compiled by the staff of the American Bee Journal, is a gold mine of information on the importance of honey bees for pollinating over 50 farm crops including legumes, fruits, and vegetables. Statements occurring in the booklet are backed up by names of national authorities from which statements are taken. The booklet is well illustrated with pictures of various honey plants. It is worthy of a careful reading and should be in the hands of beekeepers, farmers, and orchardists throughout the country.

* * * * *

Erie County (Ohio) Beekeepers' Association held its April meeting in Erie County Court House on April 11. Chas. A. Reese, Extension Apiarist for Ohio, was our guest speaker. His talk was mainly on the breeding of hybrid queens at Kelley's Island, which is in Erie County. S. E. Bailey, State Apiarist, is guest speaker for our May meeting. —R. L. Livermore, Pres.

* * * * *

Dr. Horatio C. Meriam of Cornish, Maine, President of Maine State Beekeepers' Association, and Secretary of York and Cumberland Counties Association, died recently at the age of 60.

* * * * *

The Wayne County (Michigan) Beekeepers' Association held a successful meeting on the afternoon

(Continued on page 312)

American Honey Institute News Notes

By Harriett M. Grace, Director
Commercial State Bank Building
Madison 3, Wisconsin

There's a tune that will soon be flying through the air—it's "Hi, ho, Come to the Fair!" And there's nothing like a county or a state fair to spread the news about honey and to advertise your apiary.

Fairs are places that people come to because they want to see the produce and the displays that are on exhibit. You don't have to advertise or even urge people to come. They're ready and waiting to be impressed with the product you have to show them. So—impress them! Begin now to think about the kind of display that you'll want to have.

The display you have at the fair is like a window to your business. You'll want to make it an attractive one. You know that when you're walking down Main Street and looking at the windows of stores along the way, certain ones impress you and others you hurry past.

Analyze the qualities that make some windows outstanding. Notice the backdrop, the cleanliness, and the way in which merchandise is displayed.

First the backdrop. In a window the most effective is often the one that's the simplest. Color is important. You don't want it to be so bright that it will detract from the merchandise. On the other hand, a background that is a pale biege, buff, of cream gives no punch—it "packs no wallop". Take advantage of all the research and planning that has gone into modern merchandising and decorating. Use color—dashingly and where it will be most effective. You may want to have a backdrop in yellow and lettering in a striking brown. If so, add a small touch of blue for contrast and effect. Or you might want to stress the colors that are on the labels you use. For instance, if your labels are yellow, deep blue, and white you could use a blue and white background and have the name of your honey in large yellow letters across it. There are dozens of attractive ways to vary the background of your exhibit. Think about it, and if you have any problems, why not write to the American Honey Institute to see if they can solve them.

And as to cleanliness—you know, if merchandise is clean and **looks** clean, it will sell. The same is true of a display. If it has a sparkling clean appearance, people will be attracted to it. Have your jars and containers spotless, make sure no grime or excess dust or any gummy substances are on them. Of course, all honey is clean when it's ready to be sold or exhibited, but like persons, some are immaculate and impeccably groomed. Have the counters on which the honey rests clean and freshly painted if you provide them. The display you have gives the hundreds of visitors who see it their most vivid impression of your product and your apiaries.

And now the most vital part of your display—the arranging of the merchandise itself. There are so many ways to do this that the Honey Institute can do no more than offer certain basic suggestions.

If you have a traditional display, be sure first of all that you have several jars of honey—just a few will give the impression that you have a very limited stock and do business on a very small scale.

You might have one, two and five pound jars all included. For instance, arrange several pyramids with the five pound jars on the bottom, the two pound jars forming the next two rows, and the one pound jars at the top. Or you might have about five pyramids. Have the outside two consist entirely of five pound jars, the next two or three of two pound jars, and the center one of one pound jars. The whole idea could be reversed with the one pound jars on the outside and the center display consisting of five pound jars.

Another way of arranging jars is to put them in semi-circles so that each one shows up to the best advantage. For the best effect it's best not to have the jars simply standing in a row. If you don't want to put one jar on top of another, then at least let your jars form a "V" to call attention to them.

XUM

JUST NEWS

(Continued from page 310)

and evening of March 25 at Dearborn City Hall with Prof. Russell Kelty of M.S.C, Paul Bayliss, Julius Victor, and Wm. Stack appearing on the program. Bill Brown of The A. I. Root Company at Medina, Ohio, showed some new movies on bees and honey plants, and Jack Deyell of Gleanings in Bee Culture commented on the films.

* * * * *

The Eighth Annual Beekeepers' Short Course will be held on May 10, 11, and 12, 1950, at the University of Minnesota, University Farm, St. Paul. The program is as follows:

Wednesday, May 10

8:00—Registration—Fee for course, $3.00
9:15—Background training for beekeeping—R. L. Parker
10:00—Package bees and their installation—C. D. Floyd
11:00—Improving the stock; pollen substitutes—M. H. Haydak
1:30—Value of bees in pollination of plants—M. H. Haydak
2:30—Bee behavior and apiary management—R. L. Parker
3:30—Installing package bees (demonstration in the apiary of installing package bees and of standard practices of handling bees and equipment)—M. H. Haydak, R. L. Parker, C. D. Floyd

Thursday, May 11

9:00—Swarming and its control—M. H. Haydak
10:00—Good queens and colony management—R. L. Parker
11:00—Preparation of honey for retail market—E. J. Dyce
1:30—Know your honey—M. H. Haydak
2:30—Some ideas of reducing cost in the apiary —E. J.Dyce
3:30—Fall management and wintering—M. H. Haydak
5:30—All gather at University Farm Cafeteria for informal dinner together. Get your trays at Cafeteria and then go to the party Dining Room reserved for the beekeepers' group on the first floor. Dr. E. J. Dyce and Dr. R. L. Parker will have short talks of their own choosing. This is an opportunity to visit and exchange ideas.

Friday, May 12

9:00—Trends in honey houses, equipment, and management—E. J. Dyce
10:00—Adult bee diseases, enemies, disease transmission, bee poisoning—M. H. Haydak
11:00—Legal aspects of beekeeping—C. D. Floyd
1:30—Brood diseases and their control—Thomas Gochnauer
2:15—Motion pictures in beekeeping—M. H. Haydak
3:30—Question box (type from the previous program)

* * * * *

Tazewell Beekeepers' Association of Illinois cordially invites all beekeepers and friends to attend the outdoor meeting on Sunday, May 14, at 12:00 noon at the residence of the Secretary, Joseph Jachman, 500 Swords Ave., Peoria, right behind the Guardian Angel Home. A regular meeting will be held with election of officers and payment of dues.—Joseph Jachman, Secretary.

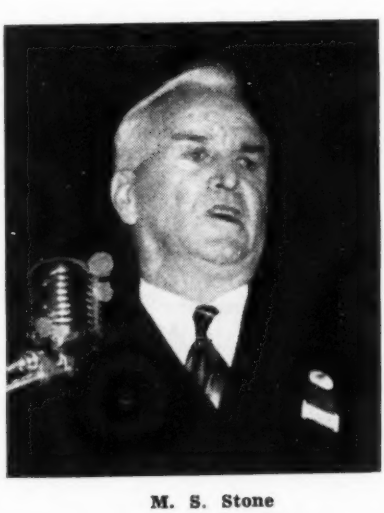
M. S. Stone Dies in Chile

The beekeeping industry of this country will be extremely shocked to learn of the untimely passing of M. S. Stone who has acted for the past several years in the capacity of General Manager of Superior Honey Company.

Death came to him as he slept on the night of April 17th at Santiago, Chile. Mr. and Mrs. Stone were on a cruise to South America and were just preparing to return home after an absence of several weeks.

Spence, as he was known to all of his associates and friends, will be sorely missed by the beekeeping industry as a whole.

He was one of the men who was instrumental in organizing the American Honey Institute, which organization he served almost continuously as a Director, at one time



M. S. Stone

(Continued on page 320)

Buy and Sell Here

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 15c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

NEW CROP of honey shipped daily from producer in Florida. Pure orange blossom, 5 lbs., $2.25; Pure Florida cut comb honey, 5-lb. pail, $2.75. No C.O.D. orders. All shipments prepaid. E. R. Raley, Daytona Beach, Box 1610, Florida.

CLOVER extracted honey in sixties. Abram Brubaker, Lancaster, Pa., Rt. 1.

AMBER, LIGHT AMBER, AND WHITE honey in 60's. Sample, 15c. Joseph Fekel, Rt. 4, Vineland, N. J.

ORANGE BLOSSOM HONEY in new 60's. Peter W. Sowinski, Fort Pierce, Florida.

CLOVER EXTRACTED in 60-lb. cans. Liquid, $8.40 per can. Crystallized, $8.00 per can. Lose Brothers, 206 E. Jefferson St., Louisville, Ky.

HONEY, choice light amber mixed with citrus in 60-pound cans, 12 cents per pound. N. J. Barnett, Box 895, Pharr, Texas.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—Honey and wax, any quantity. Send samples and prices. Alexander Company, 819 Reynolds Road, Toledo 7, Ohio.

CASH FOR YOUR HONEY—Light extracted or comb. Regular trade send sample. 60-lb. cans furnished if desired. W. R. Moomaw, Stone Creek, Ohio.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce St., Los Angeles 21, Calif.

WANTED — White and amber honey. Any amount. D. F. Treap, 316 Keenan Ave., Cuyahoga Falls, Ohio.

HONEY AND WAX WANTED — Mail sample. Advise quantity. BRYANT & SAWYER, 2425 Hunter St., Los Angeles 21, Calif.

WANTED—EXTRACTED HONEY—Clover or light amber. C. H. Denny, Rt. 4, Ravenna, Ohio.

CASH FOR BEESWAX — Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

CASH for your comb honey and all types extracted. Send sample and best price. Buckeye Honey Co., 3930 N. High St., Columbus 2, Ohio.

WANTED—Comb honey and extracted honey, large or small amounts. Send price list and samples. R. A. Raley, Box 2263, Daytona Beach, Fla.

WANTED — White extracted or comb honey. Send sample. Millersport Honey Co., Millersport, Ohio.

FOR SALE

QUEENBEE PAINTING OUTFIT, $1.00; colony records, 10-15c postpaid. Southwick Apiaries, Waban, Mass.

WE CARRY a full line of ROOT QUALITY Bee Supplies. Prairie View Honey Co., 12303 12th St., Detroit 6, Mich.

FOR SALE — Write for large free Bee Supply Catalog. We manufacture bee hives, foundation, tanks, and extractors. Listing many items not found in other catalogs. Walter T. Kelley Co., Paducah, Ky.

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Mich.

The only comb foundation plant in the East. We sell foundation, work your wax, render combs and cappings. Robinson's Wax Works, R.D. 3, Auburn, N. Y.

SIMPLEX TRAP clips queens without handling, $1.00 postpaid. Instant Frame Spacers — eight-nine, specify size, $1.50 postpaid. Free circulars. George Leys, 36 Jackson St., New Rochelle, N. Y.

YOUR WAX WORKED into medium brood foundation, 23c pound; 100 pounds, $19.00. Medium brood foundation for sale at 65c pound. Fred Peterson, Alden, Iowa.

WINDOW CARTONS, attractive, two-colored, selling out at a sacrifice, 4¼ x 4¼ x 1⅞ in., $9.00 per 1000, fob. Lose Brothers, 206 E. Jefferson St., Louisville, Ky.

CLEAN UP AFB WITH SULFA. 25 tablets, 50c; 50, $1.00; 100, $1.50; 1000, $7.00. Write for big 64-page catalog listing many items not found in other catalogs. WALTER T. KELLEY CO., Paducah, Kentucky.

FOR SALE—30 ten-frame two-story colonies, each with 3 standard 9⅛" supers drawn comb, $450.00; 13 used 8-frame 3-wire excluders, 50c each; 40 ten-frame 7-wire excluders, new wood, used wire, 65c each; 1100 new 9⅛" frame end bars, $2.00 hundred. Hiltner's Apiaries, North Creek, Ohio.

HONEY LABELS

Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

Michigan Headquarters for

Root QUALITY

Bee Supplies

Complete Line of Bee Supplies and Honey Containers
Prompt Service

MICHIGAN BEE and FARM SUPPLY

Northern Branch at Elk Rapids, Michigan, closed for the season.

Main Office — Mail Order Address
Box 7 Lansing, Michigan

G. B. Lewis Wooden Goods!

Dadant's World Famous Crimp Wired Foundation. — Their 85 years' experience is your safeguard. Catalogue on request.

Dotson's Apiaries

3059 W. Roxboro Rd., NE
ATLANTA, GEORGIA

HONEY WANTED

Carloads and less than carloads. Mail sample and best prices in all grades.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

10-frame bodies drawn combs, $4.50; metal covers, $1.00; bottoms, 75c. Irvin VanDevier, Medina, Ohio.

FOR SALE—10 new hive bodies and frames, 20 used, 10 supers, 2-frame reversible extractor, electric knife, other equipment, price reasonable. H. A. Dunham, 18 Niles Ave., Madison, N. J. Madison 6-2719-M.

FOR SALE! Forty colonies of bees and equipment for 100. Also extractor, honey tanks, etc. Mostly all new. Clifford Oshel, 717 Winfield, Topeka, Kan.

FOR SALE: 1200 two-story 10-frame colonies Italian bees located in famous Flathead Valley. Thirty registered locations. Seventeen-year average production, 140 pounds. Good wholesale market. 4000 full-depth lock-cornered supers with good combs. Queen excluders. Good modern extracting plant and wood working shop in good town. Machinery ready to go. W. R. Hettrick, Ronan, Montana.

USED EXTRACTORS FOR SALE, 50, 24, 12, 4, 2, and 1-frame. Ask for prices on special lot of Medium Brood Foundation in 100-lb. lots. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies Onsted, Michigan.

Root's 4¼ x 4¼ x 1½ split sections, $10 per 500; Dadant's thin super foundation, 4⅛ x 17, 90c lb., Dadant's deep section holders, $12 per 100. A. Buren, Cullom, Ill.

SPECIAL — Equipment for 40 hives, complete. 1 year developed frames. EXCELLENT CONDITION. Includes feeders, excluders, knives, extractors, tanks, etc. Must sell, now operating another business. Contact Kitchen Craft, 605 North 2nd St., Milwaukee, Wisconsin. Daly 8-5223.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

GOOD ITALIAN QUEENS, 75c each. D. W. HOWELL, Shellman, Georgia.

CAUCASIAN Laying Queens with 2 lb. pkg., $3.00; 3 lb., $4.00 Extra queens, $1.00. Miller's Apiaries, Rt. 1, Three Rivers, Texas.

CAUCASIANS—Booking orders for 1950. Lewis & Tillery Bee Co., Route 1, Box 280, Greenville, Ala.

YANCEY HUSTLERS — Reliable package bees and queens. Prices right. Caney Valley Apiaries, 2500 Nichols, Bay City, Texas.

BEES AND QUEENS. Send for FREE circulars. Over 30 years a shipper. Blue Bonnet Apiaries, Weslaco, Texas.

BREWER LINE BRED Caucasian Queens, 1-24, $1.10; 25-99, $1.00; 100-up, 95c. Member ABBA. Brewer Brothers Apiaries, 36-16 Caucasian Circle, Tampa 9, Florida.

YES, ALL COMPARISONS prove that Green's profit producing queens are the best to be had. They will please you from the brood nest to the harvesting of a great crop of honey. Backed by 22 years of breeding better queens. Price, 90c each; after May 20th, 75c each. D. P. Green, Deland, Fla., Rt. 2.

GOLDEN QUEENS, 90c airmail. Write for quantity prices. O. E. Brown, Route 1, Asheboro, N. C.

CAUCASIAN QUEENS, 1 to 9, $1.25 each; 10 to 49, $1.00 each; 50 and over, 90c each. Howard E. Crom, Rt. 1, Box 75, Ripon, Calif.

FOR SALE: 100 colonies bees, inspected. Bee supplies and honey. William March, R.D. 3, Mantua, Ohio, 2 miles west of Shalersville, Route 303.

BRIGHT YELLOW GOLDEN Italian Bees and Queens. 2 lbs., $3.50; 3 lbs., $4.50. Queens, $1.10 each. Tested, $2.00. Guilford Apiaries, 4300 A. Burlington Rd., Greensboro, N. C.

THREE-BANDED ITALIAN Bees and Queens. 2 lbs., $3.50; 3 lbs., $4.50; Queens, $1.10 each; Tested, $2.00. Bessemer Apiaries, 4300 A. Raleigh Rd., Greensboro, N. C.

CAUCASIANS — Make your own increase with Caucasians. State your requirements. We make the price. History and habits of the Caucasians mailed free. Modern methods of placing queens and packages in hives at destination, and care thereafter, furnished with each order. Miller's Caucasians, Three Rivers, Texas.

THE SAME PRICE TO EVERYBODY. 75c for Italian queens, 2 lb. package with young laying queen, $3.00; and 3 lb. package with young laying queen, $3.75. Southern Apiaries & Supplies Company, Chatom, Alabama.

THREE BANDED ITALIAN bees and queens, best of quality and gentle. Satisfaction guaranteed. 1 to 25, 2 lb. with queen, $3.50; 3 lb. with queen, $4.50; 25-up, 2 lb. with queen, $3.25; 3 lb., $4.25. Select untested queens, 1-25, $1.10; 25-up, $1.00 each. Alamance Bee Company, Graham, N. C.

CAUCASIAN BEES AND QUEENS, extra good workers and very gentle. 2-lb. with queen, $3.50; 3 lb. with queen, $4.50; Select untested queens, 1 to 25, $1.10; 25-up, $1.00. Tested, $2.00. Write for prices on larger orders. Black River Apiaries, Elliott Curtis, Mgr., Currie, N. C.

GOLDEN ITALIAN BEES and Queens, best of quality, very gentle. 2-lb. with queen, $3.50; 3-lb. with queen, $4.50. Untested queens, select, 1 to 25, $1.10; 25-up, $1.00 each. Satisfaction Guaranteed. Write for prices on large orders for packages. Carolina Bee Farm, Graham, N. Carolina.

EARLY PACKAGE BEES. Prompt shipment begins May 10th. Two-pound package and queen, $5.50 postpaid. Three-pound package and queen, $6.60 postpaid. Choice Italian queen, $1.25. Safe arrival guaranteed. Health certificate furnished. Birdie M. Hartle, Reynoldsville, Pa.

REAL PETS. Brown's non-stinging, non-swarming bees. Honest producers. Now booking for June. $2 queen. Brown's Apiary, Cape May Court House, N. J.

THE NORMA ROY APIARY — Italian bees for May and June delivery. 3 pounds with queen, $3.00; 4 pounds, $3.50. Live delivery and health certificate. Norma E. Roy & Son, Hessmer, La.

IMPROVED ITALIANS — 600-pound strain, 3 pounds bees and queen, $3.75. Queens, 75c. Henry Loehr, Jr., Caldwell, Texas.

MERRILL'S
First Quality

Italian DR or
Regular Stock
Prompt Shipment

Quantity	1-12	12-1000
2 lb. pkg. with queen	$3.00	$2.50
3 lb. pkg. with queen	3.75	3.25
Untested queens	1.00	.75

Tested queens, $1.50

Breeding Queens, $5.00 each

Merrill Bee Co.
State Line, Mississippi
P. O. Box 194

Three-Banded
Italian Bees and Queens
We are trying to keep our prices in line with the low prices of honey this year. We can supply you with the same high quality bees and queens that we have been producing the past TWENTY YEARS. Prices as follows:

2-lb. package with queen, $2.25
3-lb. package with queen, 3.15
Untested Italian queens, .75

New light weight packages — overweight — disease-free. Guaranteed live delivery at your station. For queenless package deduct price of queen.

Lucedale Apiaries
Lucedale, Mississippi

PRICES AFTER MAY 5th
QUEENS Untested, $0.75
Tested 1.50
2-lb. pkg. with queen $2.75
3-lb. pkg. with queen 3.50

— Bright 3-Banded Italians —
Now Ready for Immediate Shipment

No "if" nor "ands". Quality bees and service is what counts. Our 30 years of experience assures you of the best money can buy. Full weight, safe arrival, state health certificate, and satisfaction guaranteed. Package bees shipped by express F.O.B. If wanted shipped parcel post, add postage.

Norman Bros. Apiaries
Ramer, Ala.

Mountain Gray

Bees and Queens

More than 25 years a breeder and shipper of this race of bees only, easy to handle, good honey-gathering, gentle bees. Place your order now while we still have open shipping dates.

Prices to June 1st:

	Queens	2 lb.	3 lb.
1 to 24	$1.10	$3.75	$4.75
25 to 99	1.05	3.50	4.50
100-up	1.00	3.25	4.25

Packages F.O.B. Shipping Point

Bolling Bee Co.

Bolling, Ala.

"Dependable Service"

Flowers' Quality Italians

That will stand test for honey gatherers, gentle, prolific. Our motto is to serve you with the best young bees and queens money can buy. Ask our customers. State health certificate with each shipment, prompt, live delivery guaranteed. Replacement or refund made promptly upon receipt of bad order from your express agent. No orders too large or too small, shipped when wanted. Place orders early.

Packages with young queens	F.O.B.
2-lb. package	$2.50
3-lb. package	3.15
4-lb. package	4.00
Ex. queens	1.00 Del.

Flowers Bee Co., Jesup, Ga.

No doubt you have heard the old saying the bottom has dropped out. On May 15th we are going to knock the sides out with 20% deduction on queens and 10% on packages.

Queens	2 lb.	3 lb.	4 lb.	5 lb.
65c	$2.45	$3.50	$4.25	$4.95

Gulf Coast Bee Co.

Schriver, La.

KOEHNEN'S

Package Bees and Queens

For Quality and Service

KOEHNEN'S APIARIES

GLENN, CALIFORNIA

Protect Your Future. Buy Your Extra Savings Bonds Now.

FOR SALE—350 colonies of bees and equipment. H. A. Ross, Poseyville, Ind.

FOR SALE—45 colonies bees, 3 stories, inspected. Leave on place or move. 100 lbs. Dadant's foundation. Ernest Fahlbeck, 406 South Springfield Ave., Rockford, Illinois.

FOR SALE—One to one hundred colonies, 1½-story ten-frame, galvanized covers, Italian bees, $1.00 each. State inspected. White Pine Bee Farms, Rockton, Pa.

400 COLONIES, supers, extracting equipment. Can retain locations. Inspection certificate furnished. Box 293, Port Huron, Mich.

MISCELLANEOUS

FOR SALE OR LEASE to experienced man, 500 to 800 colonies. Choice locations. First class 10-frame equipment. Permanent position to right man. Apply at once. Starting season March 1. Box 250, Gleanings, Medina, Ohio.

TRADE—2-frame reversible 23-in. extractor, or power uncapping machine used one day. Want 8. Mauser or Springfield rifle. William Gray, Prospect, Penna.

BEES FOR SALE OR LEASE—(1.) Will sell part or complete units to fit your requirements. (2) You can purchase part of unit and lease additional quantities to round out your needs with option to buy later. (3) Proven territory: Idaho, Wyoming, Montana, Nebraska—Sweet clover, alfalfa areas. (4) Our processing plant and marketing program assures outlet all honey produced from bees purchased or leased. Bright future—low cost operations—Our 45 years practical production experience ready to assist you getting started. Right prices, reasonable terms available. R. D. BRADSHAW & SONS, Wendell, Idaho, Largest Individual Producer-Packer in U. S.

WANTED: Bees in Colorado. (8 frames, dovetailed only.) Siegrist, 7741 W. 44 Ave., Wheatridge, Colo.

20-Frame Extractor, uncapping machine, honey pump, 75 beeway supers, 25 standard supers, frames and drawn comb. Half list price. Jose Lerma, Box 199, Owosso, Michigan.

SEEDS

SEEDS OF HONEY PLANTS. Ask for free catalogue. Pellett Gardens, Atlantic, Iowa.

TIME TO PLANT BETTER AND LARGER BASSWOOD TREES for quick bloom and shade. Pyramidal Silver basswood (Tilia tomentosa) stands more heat and drought. 4-5 ft., $2.75; 5-6 ft., each $3.75. Cardata, Small leaf European Basswood, red twigged. 4-5 ft., $2.75; 5-6 ft., $3.50; 6-8 ft., $4.00 each. American basswood, 4-5 ft., $1.50; 5-6 ft., $2.50; 6-8 ft., $3.00; and 8-9 ft., $4.00, F.O.B. St. Peter, Minnesota. Order from this ad. Hopa Ornamental Crab, 3-4 ft., $1.20 postpaid. Free Bee Pasture Catalogue. NICOLLET COUNTY NURSERY, St. Peter, Minn.

SUPPLIES

ATTENTION BEEKEEPERS IN MINNESOTA and adjacent states. We offer a real service on Lewis-Datant Supplies, honey containers, and labels at a price saving to you. Top market prices paid for extracted honey and beeswax. HONEY SALES COMPANY, 1806-08 NO. WASHINGTON AVE., MINNEAPOLIS, MINN.

MAGAZINES

WESTERN CANADA BEEKEEPER—Official organ of the Manitoba Beekeepers' Association. One year, $1.50; two years, $2.25; three years, $3.00. In combination with Gleanings in Bee Culture, $2.75. 211 Affleck Bldg., Winnipeg, Canada.

KNOW interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh, Dist Naini Tal, U.P. India, or obtainable from them. Subs. Rs7/—or 10 shillings or 2.25 dollars per annum. Single copy Rs¼ s. 1/9 or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

THE BEE WORLD—The leading journal of Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free. 12 cents stamps. Membership in the Club including subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 2306 Cape Town, South Africa.

ANGORA GOATS

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat Industry. Subscription — $1.00. Sample copy—fifteen cents.

HELP WANTED

WANTED — Reliable experienced man who will run 225 colonies of bees by himself 50-50. Steve Zupko, 4463-23 Street, Wyandotte, Michigan.

HELP WANTED: Extra man to work bees beginning last part of May. M. E. Ballard, Roxbury, N. Y.

WANTED—Person experienced in making Honey Cream and capable of taking entire charge of production. Write C. H. Neill, 2320 Segovia Circle, Coral Gables, Florida.

Allen Latham's BEE BOOK

The first and only book ever written by the great master of beekeeping, published December, 1949. 200 pages. 27 chapters. Handsomely bound in cloth and sent to you postpaid in special protective container.

$2.95 Postpaid

HALE PUBLISHING COMPANY
Hapeville, Georgia

For Sale

Italian package bees and queens
Health certificate and live delivery guaranteed.
LYNN WILLIAMS
Paradise, Calif.

YELLOW ITALIAN BEES & QUEENS
Same old quality and service. Live delivery and health certificate guaranteed.
2 lbs. with queen $2.75
3 lbs. with queen 3.50
Queens, 75c. After May 20th, 50c
Plauche Bee Farm
Hamburg, La. Box 5

Italian Bees and Queens
Our Aim:
"Once a customer always a customer"
2-lb. package with queen $2.75
3-lb. package with queen 3.60
Queens 75c
Alabama Apiaries
Uriah, Alabama

HONEY BEES
Eugene Walker
Live Oak, California

Package Bees Headed by Mountain Gray Caucasians or Leather Italian Queens

	1-24	24-99	100-up
2 lb. with queen	$3.60	$3.45	$3.25
3 lb. with queen	4.50	4.25	4.10
Queens	1.10	1.00	.95

March 20 delivery
TWIN BEE CO-OP.
3616 Caucasian Circle, Tampa 9, Fla.

CAUCASIANS
CARNIOLANS

Hardy, prolific, rapid build-up, best of workers. Caucasians have the longest tongue of any race. Both races build beautiful white combs. BOTH ARE THE GENTLEST OF ALL RACES OF BEES. Gentleness is safest in towns, near neighbors, or near streets and highway. Gentleness saves time, sweat, patience, and work.

Back in our N. J. yards now

2-lb. package with queen $3.50
3-lb. package with queen 4.25

10-frame colony, tested queen 16.00

Nearer for eastern states and Southern Canada. Untested queens from our Florida yards, $1.20 each. Order here but mailed from Florida. New Jersey reared queens ready May 25th. Price, $1.00 each, Air Mail.

OVER 25 YEARS A QUEEN BREEDER

Albert G. Hann
Glen Gardner, New Jersey

Bees and Queens

Caucasians or Italians

All queens introduced in packages. 2-lb. package with queen, $2.75 each in lots of three or more. Prompt shipments with health certificate, and safe arrival guaranteed.

Little River Apiaries
Box 83 Gause, Texas

Italian Package Bees and Queens

Queens after May 1st, 75c each, postpaid — 10% discount on orders of 50 or more.

F. E. Morrison
Rt. 3 Box 3696 Auburn, Calif.

Prices:	Until May 20			After May 20
	1-20	20-50	50-up	
2-lb. with queen	$3.00	$2.90	$2.75	— $2.50 each
3-lb. with queen	3.75	3.65	3.50	— 3.25 each
Queens each	.90	.85	.80	— .50 each

Live delivery — Queens clipped and airmailed

Sunkist Bee Company Convent, La.

GARON'S High Producing Stock

To Overcome Low Honey Prices

Our QUALITY 3-BANDED ITALIANS have made many satisfied customers for us.

	2 lb. w. qn	3 lb. w. qn.	4 lb. w. qn.	Queens
1-24	$3.25	$4.15	$5.00	$1.00
25-99	3.00	3.85	4.70	.90
100-499	2.75	3.55	4.55	.85

For packages with Dadant's Starline Hybrid D.R. queens quoted below, deduct the price of the Three-Banded Italian queens and add the price of the Dadant Starline Hybrids.

PRICES AFTER MAY 20th:				
1-24	$3.00	$3.90	$4.75	$.85
25-99	2.75	3.60	4.45	.75
100-499	2.50	3.30	4.10	.70

GARON Reared Dadant's Starline Hybrid Disease Resistant Queens

Progeny tested for honey production. Resistance to foulbroods. Large brood patterns and reasonably gentle.

		After May 20th
1-24	$1.35	$1.10
25-99	1.25	1.00
100-499	1.20	.95

Quality Service Promptness

Garon Bee Co. Donaldsonville, La.

Telephone 8618

Texas

Italian Queens for Honey Producers

Prices:

1 to 24 .....$1.10 each
25 to 99 ..... 1.00 each
Tested Queens .... 2.00 each

Queens clipped or air mailed at no extra cost.

Queens are reared from flowers of the Rio Grande Valley, are caged and shipped the same day, and safe arrival is assured. Queen breeders: N. J. Barnett and M. G. Smith.

Rio Grande Apiaries

Box 895 Pharr, Texas

STOLLER'S quality package bees and queens. Write

Stoller Honey Farms, Sylvester, Ga.

HARDY NORTHERN QUEENS
Bred for Quality
Only Tested Queens, $1.00 each postpaid
R. L. Livermore Apiaries
Collins, Ohio

ITALIAN BEES AND QUEENS
2 lb. package with queen $2.00
3 lb. package with queen 3.00
Queens, each ..... .60
10% will book your order, balance 10 days before shipping date. Health certificate and live delivery guaranteed with each shipment.
Bayou Bee Co.
Rt. 1 Box 49 Montegut, La.

FRAME GRIP SEND NOW!!

This light modern tool is for easy handling and removal of frames from the bee hive. Thousands of satisfied customers have proven its worth.
$3.00 plus 18c postage fee
McCord Manufacturing Company
Rt. 2 Box 866
San Jose, Calif.

THRIFTY BEES

Combless Packages & Queens
Three-Banded Italians Only
Prices quoted are for shipment May 10th to June 1st

Package prices include an untested queen.

	2 lb.	3 lb.	Unt. queens
1 to 24	$3.00	$3.70	85c
25 to 99	2.75	3.40	80c
100-up	2.50	3.15	75c

For queenless packages deduct 75c from above prices.

Remember—Thrifty Bees are Guaranteed to Please

We offer you light weight shipping crates, full weight packages, good service, and first quality bees.

W. J. Forehand & Sons
Fort Deposit, Ala.
Breeders Since 1892

PERFECT GIFTS
Bears covered with fur-like material. Bear with head stuck in honey pot, 5" high, $1.15; 3 for $2.90. Small bear with skep, 90c; 3 for $2.25 Postpaid. Quantity discounts.

Tontz Honey Farm Elsinore, Calif.

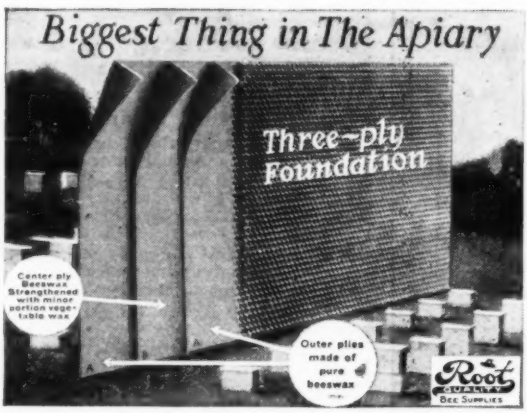
Sure—You'll Like It
Send $1.00 for Six Months
(Trial Subscription Offer)
The Beekeepers Magazine
Lansing 15-B, Mich.
(Established 1938)

Modern Beekeeping

The picture magazine of beekeeping. We show you with pictures how to do the job easier, quicker, and better. Special inventor's page.
1 yr., $1.50; 2 yrs., $2.50; 3 yrs., $3.25.
Modern Beekeeping
Paducah, Kentucky

Healthy Italian Bees & Queens
Write for 1950 Prices
Georgia Bee & Honey Apiaries
P. O. Box 312 Hortense, Ga.

XUM


Biggest Thing in The Apiary
Three-ply Foundation
Center ply Beeswax Strengthened with minor portion vegetable wax
Outer plies made of pure beeswax
Root
Bee Supplies

Root's Regular 3-Ply Foundation

With the "STRENGTH BUILT IN"

For over 28 years Root's 3-Ply Foundation has been one of the world's most popular foundations—for best results with Regular 3-Ply Foundation we suggest 2 horizontal wires. 8⅞ by 16¾ size with 2-piece bottom bar gives even more support.

Wyrless 3-Ply Foundation also available at your Root Dealer

The A. I. Root Company, Medina, Ohio

(Continued from page 312)

being Chairman of the Board. He made his services available to the United States Department of Agriculture on many occasions where his sound judgment was desired on problems connected with the beekeeping industry.

Having been born on a farm and having followed farming and stock raising to a considerable extent in his younger life, he was always mindful of the problems of the beekeeper and on many occasions cast aside financial benefit for himself and his Company in favor of projecting the interests of the individual producer.

He attended regularly national conventions of beekeepers for many years and developed a wide friendship among beekeepers and others connected with the beekeeping industry throughout the United States, Canada, and Mexico.

While living in Ogden, Utah, where he fathered a family of five children, he served several terms as a member of the Ogden City School Board. He was deeply interested in educational work and particularly in building a citizenship among younger people.

As a memorial to his oldest son who passed away at Ogden, he and Mrs. Stone endowed a library at Ogden, Utah, which is known as the Emerson Library, carrying the name of the son in whose memory it was erected.

Mr. Stone was born at Ogden, Utah, September 18, 1882. Before becoming a partner in the business of Superior Honey Company in the year 1912 he was engaged as a hardware salesman. He and his family lived at Ogden until the year 1942 when his residence was changed to Pasadena, California.

In addition to his wife Ivy, Mr. Stone is survived by his son Roland who is connected with Superior Honey Company; his son Ralph who is an engineering student at California Institute of Technology; a daughter, Mrs. Josephine Corey, at Salt Lake City, Utah; and daughter Mrs. Carol DeLaubenfels of Oberlin, Ohio. The body is being returned from Santiago, Chile, to Ogden, Utah, for burial but the funeral details had not been made at the time this is being written.

ITALIAN PACKAGE BEES AND QUEENS FOR 1950
2 lb. pkg. with young laying queen $3.00
3 lb. pkg. with young laying queen 4.00
Extra Queens (any number) $1.00 each
We guarantee live delivery, a health certificate with each shipment, and service you can depend on.
Quality Does Not Cost — It Pays
The Wilbanks Apiaries Claxton, Georgia

A TALK TO BEEKEEPERS

(Continued from page 289)

brood chamber and go up into the super and thus relieve congestion.

5. Shade from the Sun's Rays.— A spot reasonably well sheltered from the sun's rays during the summer should be selected for bees, although some claim that bees placed in the sun do not swarm any more than bees placed in the shade.

6. Ample Ventilation. — Giving hives the widest entrance during the summer months, also removing the block from the hole in the inner cover, helps to supply ventilation and assists bees in ripening honey.

7. Painting Hives White.—White will not attract the rays of the sun as will darker colors, consequently hives painted white should help to control swarming.

8. Providing Comb Space Early. The best swarm control measure consists of giving comb space by putting on supers a little in advance of the time they are actually needed, in order to make room for incoming nectar as well as pollen, and to give bees plenty of space to move around in the hive.

If the beekeeper keeps in mind these preventive measures he should have the minimum of swarming.

A Word about Stores

It hardly seems necessary, after what has been said in previous talks about the importance of ample stores, to mention this matter again. It is obvious that more colonies are lost through starvation than from any other single cause. Furthermore, a large percentage of colonies throughout the country fail to store the maximum crop because the owners fail to supply an ample amount of stores, especially during the critical period of spring when an abundance of honey is needed for brood rearing. Be sure to keep all colonies well fed right up to the beginning of the main honey flow.

Protect Your Future. Buy Your Buy U. S. Savings Bonds

Whittle's
Leather Colored Italians
Get your Packages and Queens when you want them. Reserve 1950 Shipping Dates Early.
Write for Our 1950 Prices On Package Bees and Queens
Our Bees and Service Will Please You.
G. E. Whittle
Star Route West
Greenville, Alabama

QUEENS
Light Italians
Prolific — Gentle
85c ea. $9.00 doz.
W. E. VanHorn
Sinclairville, N. Y.

A Famous Strain of
LIGHT COLORED ITALIANS
produced and shipped by
The Most Modern Bee Breeding Establishment on Earth
The Daniels Apiaries
Picayune, Mississippi

HONEY LABELS
Ask for our catalog
We are better prepared than ever to give you good service on your labels.
The A. I. Root Company
Medina, Ohio

Australasian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the
"AUSTRALASIAN BEEKEEPER"
Subscription 8 shillings per year. Start any time. Inquire for International Money Order for 8 shillings (Australian) at your Post Office.
Write now to the Editor
P. O. Box 20, West Maitland
New South Wales, Australia

Package Bees
Italian Queens
For 1950

Packages with Queens:

	2 lbs.	3 lbs.	4 lbs.	5 lbs.
1-99	$3.00	$3.90	$4.70	$5.30
100-up	2.75	3.75	4.40	5.00

Queens 90c each Airmail postpaid
—clipped on request.
No better quality at any price
Satisfaction guaranteed

Geo. A. Hummer & Sons
Prairie Point, Miss.
Established 1892

Little & Moore Apiaries
Originally
LITTLE'S APIARIES
The John M. Davis Strain
GUARANTEED TO PLEASE
or money refunded
April 1st to June 1st:
1 to 10, $1.20 each
10 to 100, $1.10 each
June 1st to Nov. 15th:
1 to 10, $1.00 each
10-100, 90c each
Little & Moore Apiaries
Shelbyville, Tenn.

Italian Bees and Queens
Book your order early, to get pick of dates.
Health certificate, and live delivery guaranteed.
Packages with Queens:

	2 lb.	3 lb.	Queens
1 to 49	$2.50	$3.45	$.75
50 to 100	2.40	3.25	.70
100-up	2.35	3.15	.65

Homan Bros.
R. 2 Shannon, Miss.

Bees & Queens
Quality Fine
Price in Line
Write
J. F. McVay, Jackson, Ala.

BEEKEEPING IN ALASKA

(Continued from page 279)

provide enough nectar and pollen for them to build up on. May here is the sunniest month of the year. Perhaps a third of the nectar comes from fireweed, the rest from the dozens of kinds of little flowers in the woods. Most of the honey is amber, with an occasional colony storing some quite light or quite dark. The flavor seems stronger than that of honeys from the States.

Now that I have given up trying to winter my bees, I kill the queens the first week of August and gas the bees three weeks later. Delaying longer means having to deal with the bees in freezing weather when their tempers are especially nasty and the Cyanogas only puts them briefly to sleep.

The DDT menace is with us here because of the mosquitoes. Although I live four miles from Fairbanks, I had to move my bees six miles farther out last summer to escape the weekly spraying.

The total number of colonies in the Territory is probably not more than 100 at most. My own apiary of 30 colonies is the largest, and I do not think that anyone else has more than five colonies. J. G. Rivers, a Fairbanks lawyer, kept five colonies for eight or ten years and was the first beekeeper to have packages shipped by air.

Since 1944 bees have come by plane each year, though such shipment is rather chancy, and the bees can be held up several days at Seattle when the planes are full. Some suppliers cooperate well in this method of shipment, but others refuse to take the trouble.

Honey in Alaska sells for very nearly Seattle price plus freight, and the cost of equipment, of course, is increased similarly. Hence the lower yield per colony means a lower labor profit. If you can make money as a beekeeper in Alaska, you can make more in the States. Furthermore, it takes considerably more capital to start farming in Alaska on free land than to buy a farm in Iowa. There is only one good reason for living in Alaska—that one likes the place. It is all the reason I need for staying here.

Protect Your Future. Buy Your Extra Savings Bonds Now.

Queens – Packages

Italians **Caucasians**

When you want GOOD QUEENS try us. We will give you QUALITY plus SERVICE at REASONABLE PRICES

ONE OF THE SOUTH'S OLD RELIABLE SHIPPERS

PRICES TO MAY 20th

Lots of:	Queens	Packages 2-Pound	3-Pound	4-Pound	5-Pound
1-24	$1.00	$3.25	$4.15	$5.00	$5.90
25-99	.90	3.00	3.85	4.70	5.50
100-499	.85	2.75	3.55	4.35	5.10

Add $1.00 to above Prices for Tested Queens

PRICES AFTER MAY 20th

1-24	$0.60	$2.75	$3.50	$4.25	$5.00
25-99	.55	2.50	3.25	4.00	4.75
100-up	.50	2.25	3.00	3.75	4.50

Add 75c to above Prices for Tested Queens
For Queenless Package—Deduct Price of Queen
Packages F.O.B. Shipping Point
Queens Postpaid—Airmailed or Clipped
(No Extra Cost)

The Stover Apiaries Mayhew, Miss.

PACKAGES — BESSONET'S — QUEENS

Sorry that we could not supply the demand during March and, April but we can accept more orders for May. Our prices for May are as follows:

Quantity	Queens	2 lb. with queen	3 lb. with queen
1-24	$.90	$2.80	$3.75
25-up	.80	2.75	3.70

Queens air mailed

Bessonet Bee Company **Donaldsonville, La.**

THE BAKER APIARIES

Announcing May Prices on Queens and Packages

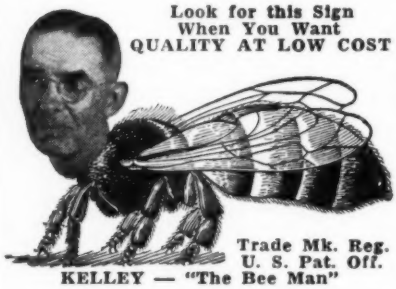
	2 lb. pkg.	3-lb. pkg.	Our Unexcelled Strain
1-24	$3.50	$4.50	of Italian Queens
25-99	3.25	4.25	Any Number, $1.00.
100-up	3.00	4.00	They Produce.

C. W. BAKER **Livingston, Alabama**

Health Certificate with each shipment. We have never had AFB.
Live delivery Guaranteed.

SELL MICHIGAN CLOVER HONEY
We furnish Dealers with best Michigan clover honey, in 60-lb. cans, at wholesale price. If you do not know Michigan clover honey, write us for full information. There is none better. Your customers will like Michigan clover honey. Always sell the best. Get on our mailing list, and see from time to time what we can furnish you.
Townsend Sales Co., Northstar, Mich.

HOLLOPETER'S HARDY ITALIANS
Our 50th year with bees, 40th as commercial queen breeders, in northern mountain location suited to breeding hardy, prolific queens, with excellent in-and-out mail service. We give prompt service and complete satisfaction. Queens, $1.00 each. Ready May 15th.
White Pine Bee Farms, Rockton, Pa.



BEES and QUEENS

Young bees, free of drones—shipped when you want them. Young purely-mated 1950 queens. Three-banded Italians only.

2-lb. swarms young bees and
1950 queens $3.00
lots of 25 and up 2.75

3-lb. swarms young bees and
1950 queens 4.00
lots of 25 and up 3.75

1950 Laying Queens by prepaid air mail, $1.00 ea.; Lots of 10, 90c ea.

Walter T. Kelley Co., Box 210, Paducah, Ky.

THE RICH HONEY FARMS Jeanerette, La.

Leather Italian or Caucasian Bees and Queens

EXTRA HEAVY PACKAGES POSITIVELY NO DRONES

Breeding stock from the highest producing non-swarming strains available

Italians or Caucasians

	Queens	2-lb. Pkgs.	3-lb. Pkgs.	4-lb. Pkgs.
1-24	$1.15	$3.50	$4.50	$5.25
25-up	1.05	3.00	4.00	4.75

Produced by Rich Honey Farms
Dadant's Disease Resistant Queens:
A fine gentle non-swarming strain of superior gathering ability.
1-24.....$1.40
25-up..... 1.30

For packages with Disease Resistant queens, add 25c per package. For queenless packages, deduct price of queen. Queens shipped, painted, or Air Mail at no extra cost.

Better Bred Queens 3-Banded Italians

BEES! BEES! BEES! Plenty of bees. We can make prompt shipment on any quantity. Send us your rush orders and be among our many satisfied customers. Our Better Bred Stock has given satisfaction for many years.

2 lb. package with queen, any quantity $2.50
3 lb. package with queen, any quantity 3.40
Queens, any quantity ..... .75c each

Calvert Apiaries Calvert, Ala.

Bring Your Dreams Down to Earth
Buy U. S. War Bonds

Here They Are 1950 Prices

	1-25	26-up
2 lb. pkg. with queen	$3.00	$2.85
3 lb. pkg. with queen	3.75	3.50

10% deposit with order, balance ten days before shipping date. Queen prices on request. These packages are the same quality as we have shipped in the past, featuring Gentleness, Good Wintering, Conserving Stores.

Order so delivery will be made not later than Friday. Shipping starts March 15th, or as soon after as queens are available.

"They Produce"

Rossman & Long

Box 133 Moultrie, Ga.

JENSEN'S

BEES QUEENS SERVICE

Our operations are confined to producing the best package bees and queens we know how, and getting them to you on time.

"Magnolia State" Italian, our old reliable

	Queen	2 lb. w. q.	3 lb. w. q.
1-24	$1.10	$3.75	$4.75
25-99	1.00	3.50	4.50
100-999	.95	3.25	4.25
1000-up	.90	3.00	4.00

* * * *

If daughters of Dadant's Starline Italian "Hybrid" stock are wanted in packages, deduct price of queens listed above and add as follows:

1-24, $1.40 25-99, $1.35
100-999, $1.20 1000-up, $1.15

REMEMBER. These are Jensen reared queens. Disease Resistant, of Dadant developed and Tested Breeding Queens that have been instrumentally inseminated, and mated in isolation yards with drones of same stock. For gentleness and other desirable characteristics including high production, they are tops.

Jensen's Apiaries
Macon, Mississippi

PLANT'S

Productive, Vigorous Italians **Gentle and Easy to Handle**

WE GUARANTEE—
Queens are young, laying, and first quality. Full weight, young worker bees. New, light weight cages. Prompt shipment. Safe arrival and satisfaction. Health certificate with all shipments. Never any disease in our queen or package yards.

MAY PRICES
After May 6th

	1-50	51-up
2-lb. pkg. with queen	$2.40	$2.20
3-lb. pkg. with queen	3.00	2.80
Queens, each		.75

38 Years' Experience

W. E. Plant

Hattiesburg, Mississippi

LOW MAY PRICES

Very best quality queens and packages. Complete satisfaction guaranteed

2-pound package with queen, $2.00 3-pound package with queen, $2.50
Queens, 50c each 3-band Italians only

Sunrise Apiaries **Petal, Mississippi**

XUM

By Airmail

OK Queens

WHY!

We keep queens in our mating yard from at least one-half dozen of what we believe to be the best strains of bees in America, including DR queens. Thus the cross gives us, according to customers' reports, the queen of their dreams.

Queens, $1.00 each;
after June 1st, 75c.

Your order now for your summer and fall needs may keep you from getting disappointed. Booked up until May 20th.

O. K. Anderson & Son

193, Coffee Springs, Ala.

Italian Bees and Queens

CUSTOMERS: New and old, I take this method of soliciting your future orders and will appreciate a continuance of your business. There is no deposit required to book an order with me. Full weight, a health certificate and live arrival guaranteed. Queens clipped at no extra cost.

Price for 1950 package bees with queen; also extra queens:

	2 lb.	3 lb.	4 lb.	Ex. Queens
1 to 24	$2.50	$3.45	$4.30	75c
25 to 99	2.40	3.35	4.15	70c
100 up	2.35	3.15	4.00	65c

Farris Homan
Shannon, Miss.

Norman's Package Bees

— Prompt Service —

Bright 3-Band Italians of Highest Quality. Full weight packages headed with young purely mated Italian queens. Safe arrival and satisfaction.

Untested queens	$1.00
2 lb. pkg. with queen	2.75
3 lb. pkg. with queen	3.50
4 lb. pkg. with queen	4.50

John A. Norman
Ramer, Ala. Route 2

Queens Our Specialty

Italian, Caucasian, and Carniolans

Three Isolated Mating Yards to Prevent Mixing Breeds

Italian queens, 1-10, $0.90
11-49, $0.85 50-up, $0.80
After May 15th, $0.50 each
Carniolan, the most gentle and good producers, $1.20 each
Caucasian, very gentle and produce beautiful comb honey, $.90

All queens shipped by Air Mail and guaranteed to please

Walter D. Leverette Apiaries
Box 364 Fort Pierce, Florida

First Quality Leather Color

Italian Queens

75c each

10 % discount for 50 or more

John S. Shackelford
Rio Oso, California

Italian Queens

After 10th, 55c each. All queens are young, large in size, good layers, and we guarantee satisfaction. On 500 of more write for prices. A few packages left.

2 lb. pkg. with queen	$2.50
3 lb. pkg. with queen	3.50
4 lb. pkg. with queen	4.25

Mitchell's Apiaries
Bunkie, La.

DARK THREE-BANDED ITALIANS
Bees and Queens for 1950
We are state inspected, and Guarantee live delivery and complete satisfaction.

	1-9	10-up
2 lb. Pkg. with Queen	$3.25	$3.10
3 lb. Pkg. with Queen	4.00	3.75
Extra Queens	1.00	.85

A. M. PEACH Baldwyn, Mississippi

Three Band Italian Package Bees and Queens and Pure Italian Three Way D.R. Queens

Full Weight, Prompt Shipment, Young Bees
State Health Certificate with each Shipment
Live Arrival Guaranteed. Replacement or Refund made promptly upon receipt of bad order from your express agent.

1950 Prices
With Young Laying Queens

	2-lb.	3-lb.	4-lb.	5-lb.
Lots of 1 to 29	$3.25	$4.00	$4.75	$5.50
30 to 100, each	3.00	3.75	4.50	5.25
100-up, each	2.80	3.50	4.25	5.00
Untested Queens	1.00 each			
Tested Queens	2.00 each			

For Introduced Queen, add $1.00 per package
If queenless bees are wanted, deduct $1.00 from the package price

Jackson Apiaries Funston, Ga., U. S. A.

BEEKEEPING INSURANCE

Not exactly but DISEASE RESISTANT QUEENS reduce one of your hazards. Parent stock efficiently tested and selected each year.

1950 PRICES
Packages with DR Queens

Quantity	Queens	2 lbs.	3 lbs.	4 lbs.	5 lbs.
1 to 9	$1.30 ea.	$4.00 ea.	$5.00 ea.	$6.00 ea.	$7.00 ea.
10 to 49	1.20 ea.	3.75 ea.	4.75 ea.	5.75 ea.	6.75 ea.
50 to 99	1.10 ea.	3.50 ea.	4.50 ea.	5.50 ea.	6.50 ea.

Iowa Beekeepers' Association

State House Des Moines, Iowa

N O T I C E
High Quality Queens and Bees
Prices After May 5th:
Young Laying Queens Only 75c
Package Bees with Queens

	2 lbs.	3 lbs.	4 lbs.	5 lbs.
1 to 10	$2.75	$3.25	$4.00	$4.65
10 and up	2.50	3.00	3.75	4.45

I guarantee Live Arrival, Health Certificate, and New, Neat, Lightweight Shipping Cages. Your order will be given Prompt Attention.
Carlus T. Harper New Brockton, Ala.

Bring Your Dreams Down to Earth
Buy U. S. Savings Bonds